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ORIGINAL ARTICLES.

A CONSIDERATION OF SOME OF THE OPERATIVE MEASURES EMPLOYED IN GYNECOLOGY.

The President's Address, delivered at the Annual Meeting of the Gynecological Society of Boston, January 12, 1893

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In looking over the records of our work of the past year for a theme for the President's address, many subjects present themselves as worthy of consideration. For the cure or for the relief of many affections which occur in the pelvic and other organs, abdominal section still holds a prominent rank among the procedures to be adopted. It is gratifying to learn that there has been an increasing success attending operations necessitating abdominal section; this has been shown not only in the cases in which strict antiseptic precautions have been instituted, but also in a large class of cases in which no other precautions were enjoined than the maintenance of a good degree of cleanliness on the part of the operator.

In the abdomen and pelvis there not unfrequently occur diseases or lesions which are not amenable to surgical procedures. Malignant disease of the internal organs, or adhesions of the ileum or other portion of the small intestine to the sigmoid flexure or to other parts of the colon may offer insurmountable obstacles to success. So also may adhesions that follow the presence of hernia of long standing. An operation for relief of any of these may fail or be attended with much inconvenience. Hæmorrhage from the presence of large plexuses of veins, or hæmorrhage as the effect of violence to the vascular tissues abnormally distributed to the deeper organs and structures may be the cause of serious if not of fatal results. In dealing with cases in which any such adverse elements have entered, there can be no doubt that the recent advances attained in gynecic surgery are continually offering greater immunity against the occurrence of these mishaps. It hardly seems too much to hope that ere long, by further development of the latent possibilities of our art, we shall be enabled to achieve much more in this direction. The application of aseptic animal sutures by a method recently carried out is often a most effectual precaution against the occurrence of hæmorrhage. The continuous suture performed somewhat after the manner of the stitch of the cordwainer may be employed with most excellent results. Aseptic animal sutures are unquestionably the most effectual for such service. Antiseptic catgut ligatures were employed by Mr. Lister in 1868, and were used principally for the deligation of arteries. Before this date, however, Mr. Lister had used other kinds of antiseptic ligatures. After he had tied the artery or vessel the ends of the ligature were cut short. The ligature was then left to be disposed of by absorption or otherwise. Surgeons at that time had much hesitancy in adopting their use, for their employment was sometimes attended with untoward symptoms. In one case[1] at least the catgut underwent a change; it altered, softened and disintegrated by the heat and moisture of the living tissues, and the clot formed at the point where the ligature was applied was forced onward into the cerebral arteries, causing embolism and fatal results. An early published record we have of the employment of the kangaroo tendon for surgical purposes is that by Dr. T. M. Girdlestone,[2] of Melbourne, Australia, in 1877. Dr. Girdlestone exhibited to the Medical Society of Victoria some carbolized kangaroo tendon prepared for use in lieu of catgut. They had been preserved in carbolic oil after the manner recommended by Professor Lister. In Melbourne at an early date they seem to have been used in ovariotomy, vesico-vaginal fistula, in hernia, varicocele and in other plastic operations. In 1878 Mr. Callender,[3] the President of the Clinical Society of London, showed some specimens of tendon ligature which had been obtained from Dr. Girdlestone through the kindness of Mr. Hulme, of Guildford. The tendons were from the tail of the kangaroo, and were considered preferable to the catgut ligature in their angular form, allowing of their being tied securely, the knot not slipping, and their solution not taking place so rapidly as the catgut. In Melbourne before this date the tendon was much used for sutures, but since the supply of kangaroo tails was limited, Mr. Callender then proposed to obtain ligatures from the tendons of the tail of the horse. About that time Mr. Garner proposed the use of ligatures from the tendon of the ox; they were roughly made by simply splitting up the tendons with a penknife and soaking them in carbolic acid.

In the *British Medical Journal*[4] of May 2, 1885, is a contribution by C. B. Keetly on "Buried Sutures." That author speaks of the importance of suturing separately periosteum to periosteum, muscle to muscle, deep fascia to deep fascia and skin to skin after deep incisions of all kinds. He makes mention of aseptic animal sutures, such as carbolized catgut to be used separately as buried sutures. He concluded his paper by saying that it is only in strictly antiseptic surgery that he would venture to recommend the use of such sutures. Soon after this Schroeder employed layers of continuous catgut sutures in the operation for the restoration of the perineum. Each layer was so adjusted in the parts as to superimpose or bury the other. Thomas about this time used buried continuous catgut sutures in closing the abdomen in his laparotomy cases. In the Section of

[1] Lancet, June, 1869.
[2] Australian Medical Journal, Vol. xxii, 1877.
[3] Lancet, 1878.
[4] Journal of the American Medical Association, Vol. iv, 1885.

Gynecology of the Ninth International Medical Congress, at Washington, 1887, Dr. Cordis read for Dr. Veuillet, of Geneva, Switzerland, a paper on the buried suture. In the operation for vesico-vaginal fistula Prof. Veuillet used iodolized silk; he claimed that the application of such sutures is innocuous and is efficient. Dr. Marcy contributed a paper to the Section on Surgery, at the thirty-ninth annual meeting of the American Medical Association, May, 1888, on the surgical advantages of the buried animal suture and its adaptability to special purposes. He made mention of Lister's method and the application which that writer had early made of antiseptic catgut for ligatures to arteries. Dr. Marcy stated that the buried suture at that time had become one of the chief factors in his method for restoration of the perineum. He spoke of its use in closing the abdomen in laparotomy for any cause, of its use in hernia operations, and in operations on the rectum. Dr. Marcy stated that he had extended the application of buried suturing to the treatment of wounds in nearly every part of the body. So pleased had he become with this method of procedure in operations for the restoration of the perineum that he had discontinued the use of his "safety-pins" in operations, as described by him in a paper[5] which he read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, February 16, 1887. Dr. Marcy, as he thought needful, had used the deep buried tendon suture in the cases in which he had used the safety-pin of his own device. In the paper which Dr. Marcy read in 1888 mention is made of the report of two cases of strangulated inguinal hernia, one of which occurred in my practice, in February, 1871, the other which he also saw with Dr. W. W. Wellington, of Cambridge, in April of the same year. The case occurring in my practice was the first of all that was treated in this manner antiseptically. After the stricture had been divided, the sac unopened was pushed upward, with its contents, into the abdominal cavity. As we were about to close the canal with sutures in order to prevent an immediate return of the hernia, it then occurred to Dr. Marcy that the use of catgut sutures instead might be of benefit in helping to bring about an obliteration or agglutination of the inguinal ring. I readily concurred in the suggestion, for I had previously read Mr. Lister's article on antiseptic animal ligatures, as first published in the *Lancet* of April, 1869, an abstract of which appeared in *Braithwaite*, part 59, p. 101, July, 1869, and I had regarded Mr. Lister's deductions as of much importance.

Dr. Marcy immediately went to his house, which was at some distance, while I in the meantime kept the patient under the influence of the anæsthetic. After his return, two stitches of medium-sized carbolized catgut were taken through the walls or pillars of the canal. The external wound was closed in the ordinary way by means of silk sutures. The dressings to the wound were moistened by the frequent application of carbolic acid in solution. The parts did not heal altogether by the first intention, and by some misunderstanding on the part of the nurse the full strength of the five per cent. solution of the acid for awhile was employed. This however appeared to do no harm; it rather favored than otherwise, union of the deeper parts, by adhesive inflammation. The sutures gave no apparent trouble; they must have been absorbed, for careful daily examination showed no trace of their appearing in the open wound. An abundant deposition of new tissue could be felt in the line of the opening about the walls of the canal and along the internal ring where the sutures had been applied. June 14, 1871, there came into my practice another case of strangulated inguinal hernia. The case occurred in a man aged forty-four years. Taxis failing, an operation was resorted to. Assisted by the late Dr. A. F. Holt, I made an application of carbolized catgut ligature to the pillars and internal ring; there followed an immediate and permanent cure. Since that time the application of carbolized catgut or aseptic animal sutures in herniotomy has been continued with excellent results.

The record of these cases in which carbolized animal sutures were employed would seem to antedate all others of this class that have been operated on in America, if not also in other countries. Another subject in gynecology worthy of special consideration is that known as Trendelenburg's posture. This subject has been most ably presented in a paper read by Dr. Florian Krug before the American Association of Obstetricians and Gynecologists for 1891.

The posture, as doubtless all are aware, consists in raising the patient's pelvis and letting the body slant down at an incline of 45 to 60 degrees to the horizontal. It was first employed by Prof. Trendelenburg, of Bonn, in supra-pubic cystotomy. Since the close of the year 1887 Trendelenburg has extended its use to gynecic surgery. In abdominal surgery it was first used in cases in which special difficulties in the deeper portions of the pelvis were to be encountered. The advantages offered by this method were shown to be so great that its use was finally extended to almost every kind of abdominal and pelvic operation. In its employment the operator is enabled to get a better view of the organs and tissues of the cavity in which his work is engaged. There is less risk of accidental injury to the structures beneath; injuries to the ureters and to the bladder can be avoided. Adhesions of the intestines to the omentum or to other parts can be overcome with greater facility and safety. Operation for the removal of the tubes and ovaries is greatly assisted by the adoption of this procedure. The abdominal viscera gravitate or fall toward the diaphragm.

Trendelenburg's posture does not interfere with the due administration of anæsthetics; in cases of hæmorrhage, syncope, or of extreme exhaustion its employment is of incalculable advantage. Dr. Krug has shown that a similar posture was employed by Fabricius ab Aquapendente in the sixteenth century. We learn that that eminent Italian anatomist and surgeon, in conducting treatment for cases in which strangulated hernia existed, first tied the hands and feet of his patients, then suspending them with the head low down, violently shook them in order to effect reduction of the hernia. It appears that other physicians before and since the time of Fabrizio had employed for abdominal trouble procedures not unlike those above described. Further researches show that this kind of proceeding is in fact only an extension or modification of the ancient mode of performing succussion, a representation of which has been given by Vidus Vidius in the Venetian edition of the works of Galen, and a description has been preserved in the Hippocratic treatises on articulations. When the spinal gibbosity or hump is below the neck, ac-

[5] Boston Medical and Surgical Journal, Vol. cxvi, p. 429, 1887.

cording to Hippocrates, succussion with the head downward, as it was thought, is most likely to be of service. The patient was placed upon a ladder well padded with leather or cushions, he was then fastened at the ankles and at other parts of the body to the ladder with some firm but soft bands and with other appliances. The ladder upon which the patient was secured was then hoisted either to a high tower or to the gable end of a house, sometimes the ladder was lowered from a tower or from the mast of a ship, and the ladder was fastened at its base with cordage or with other means. In certain cases of sudden occurrence of injury Hippocrates admitted that the spine might be rectified; he rather praises the principle, though he says succussion was chiefly practiced by those physicians who seek to astonish the mob. To such persons, he says, these practices appear wonderful; people always extol such practices and never give themselves any concern as to the final results. Hippocrates further says that those physicians who practice succussion were for the most part a stupid class. In referring to the above I would not be understood as underrating in any manner the importance of Trendelenburg's posture. I have referred to it rather to show that this measure of proceeding, like many others of great value, before reaching the proper place for usefulness, has not been unregarded as an expedient of doubtful utility. Whenever for any considerable length of time Trendelenburg's posture in a laparotomy case is to be employed, precaution in the changing or discontinuance of it should be taken to prevent dangerous or fatal syncope. In a case of laparotomy in which I was in attendance with Dr. G. W. Jones, January 3, 1893, the patient on being placed in a horizontal posture changed almost immediately into a condition which excited the greatest alarm. As soon however as the patient could be placed again in the Trendelenburg posture the cardiac, respiratory and cerebral centres began to give evidence of normal activities.

Another subject deserving of consideration is the relation of chronic hysterical mania to uterine or pelvic disease. There can be no doubt that many cases of mania occurring in the female are superinduced or at least are intensified by the existence of ovarian or tubo-ovarian disease. Gynecologists from their observation and increasing experience are coming to believe that alienists are inclined to overlook this fact or that they too often fail to appreciate the significance of certain local lesions. Though not wishing to make any unfriendly criticism upon the methods and management carried out by those who have assumed to act as experts in matters relating to mental and nervous affections, I feel nevertheless constrained to remark that the gynecologist should exercise all reasonable influence in directing those who have the care of insane females, to a greater study and investigation respecting the disturbing factors having their origin in the abdominal and pelvic organs. Combined gynecological operations is a subject which has of late been gaining much prominence. Recent advances made in surgery have enabled the operator to do much more at one sitting than formerly. Such combined surgical procedures are no doubt of almost infinite benefit to the patient, for by this means she can often be saved from much physical and mental suffering; valuable time can also be saved, and the expense incident to operations performed at different times can in large measure be prevented. In cases of multiple lesions or diseased processes careful discrimination as to what shall be selected for one sitting cannot be attended otherwise than with the most satisfactory results. In a combination of which a difficult or tedious abdominal section may be an essential part, all things being considered it might be deemed best to defer to a later date other important surgical procedures. In a combination excluding laparotomy the operator should be governed by the patient's strength and by the time required for the proper employment of anæsthetics. In a paper on combined gynecological operations contributed by Dr. G. M. Edbohls, gynecologist to St. Francis Hospital, New York, mention is made of nephrorrhaphy for movable kidney undertaken in combination with curettement for chronic endometritis and catarrhal salpingitis, also its being performed at the sitting with curettement and trachelorrhaphy. On another occasion curettement, shortening of the round ligaments and nephrorrhaphy were performed together. The same author regards curettement with salpingo-oöphorectomy for diseased tubes and ovaries as the simplest of the combinations into which an abdominal section enters. Curettement amputation of the cervix or trachelorrhaphy and shortening of the round ligaments is a combination most frequently called for. Next in frequency come anterior colporrhaphy and colpo-perinorrhaphy; also amputation of the cervix, shortening of the round ligament and perineorrhaphy. When curettement, amputation of the cervix anterior and posterior, colporrhaphy, perinorrhaphy and ventro-fixation of the uterus are indicated, the author referred to favors an operation in which all are done at one sitting, for the reason that when each is done singly the union occurring in the restored parts is liable to yield or to be overcome for want of other necessary supports. In all these operations the strictest antiseptic precautions should be observed and all improved methods of procedure should be enjoined. This plan of operating has evidently been productive of much success. In the present light of gynecic surgery it is easy to see why under the old *régime* of operating by piecemeal so little of importance for the comfort of the patient was accomplished.

Tubal or ectopic, pregnancy as it is now called, has given rise to a vast deal of discussion. The causation of this condition has been variously considered. Mr. Tait's views at one time were regarded as authorative. That writer, as others hold, believes that impregnation of the ovum normally occurs in the uterus; that in those cases in which the extra-uterine fœtation occurs, the tubal cilia have been worn away, or destroyed by a salpingitis more or less severe. This view presupposes that the tubal cilia in their normal state act as an impassable barrier against the entrance of the spermatozoa, However plausible and engaging these views may often appear, they cannot be accepted as sufficient explanation for the occurrence of the majority of cases in which tubal pregnancy exists. Surgical and pathological records whether taken individually or collectively do not justify such a conclusion. In those cases of ectopic pregnancy, in which the tubal epithelium has been found destroyed or impaired, positive evidence has often been found wanting to show that that condition has been due to salpingitis. May not the impairment or the loss of the cilia be due to the new condition of things consequent on pregnancy?

The views which some of us learned in our student days, and which were forcibly enunciated by Prof. O. W. Holmes, that it is in the tube where the ovule first receives its fructifying or vitalizing influence, though much digression has been indulged in have not as yet been disproved. There are undoubtedly many factors which enter into the causation of the obstruction to the progress of the ovule. Entrance of the ovule into the uterine cavity according to G. A. Moses,[5] may be delayed from nervous influences, from shock or from organic changes in the tissues of the tube and from proliferation and ecstasis of the vascular tissue incident to the parturient state. In the treatment of ectopic gestation I have no doubt that we should all agree that as soon as the condition is fully recognized laparotomy should be performed. Though some evidence of late has been adduced tending to show that recovery after the occurrence of rupture may take place spontaneously it nevertheless appears that early operative interference affords the only safe course of procedure; leading gynecologists in all countries have advised this.

Cancer of the uterus is still receiving special attention by the German profession. Extirpation when practicable seems to be the only remedy at this time worthy of consideration. By recent advances in the technique and by the observance of strict precaution against sepsis the percentage of mortality has been greatly reduced. The statistics of high amputation or incision indicate that much success has of late been attained. One great drawback to the attainment of the highest success in operative interference is from failure in arriving at an early diagnosis. There is often displayed on the part of the medical attendant too much conservatism: or a hope is often indulged in that the disease may not be really malignant. The primary symptoms of the disease are often overlooked; the sanious discharge, the menorrhagia, the pain, the obstinate sciatica and other symptoms indicative of the presence of cancer are looked upon as the result of processes that are altogether benign in character. After the occurrence of the menopause the uterus should be regarded as a useless organ and a foreign body, for its functions at that time have ceased. Scarcely so can it be said of any other organ. Though the spleen is an organ, the importance of whose functions has been much questioned, it certainly acts at times as a diverticulum. After the menopause the uterus, with its appendages, will have appeared to have exhausted its activity. In accordance with a law that has been well recognized nature sets up eliminative processes. The uterus is tolerated (?) in position at best only by feeble props or supports. Accidents to the perineal tissue occuring during the parturient process should be looked upon rather as conservative than otherwise. The occurrence of these point to the way for vaginal extirpation that the surgeon should be ready to complete when cancer or other lesions appear, with which the uterine tissue has often been invaded. I have spoken thus much on matters relating to our work, and would have gladly extended my remarks to the discussion of other subjects of interest had there been more time for such disposal. Suffice it to say that the Gynecological Society of Boston should still continue to congratulate itself on the good work it has accomplished. Many interesting and important papers have of late been presented and much able and valuable discussion has been advanced on matters pertaining to our charge. I exceedingly regret that much of the record of our work has been withheld from the medical journals owing to the enforced absence of our accomplished secretary. Against this we seem to have been unable to provide. We are looking forward for a greater activity; with the development of the infusion of new blood we shall expect to accomplish much more. The twenty-fifth anniversary is fast dawning; the proper observance of this will show that the founding of our society antedates all such special societies that have been formed in this and in other lands. I would recommend therefore that in due time some action be taken toward a due regard for this coming event. In the history of our society are interwoven many important movements; we foresaw at an early date the coming sentiment in regard to the status in the profession of the opposite sex. So notwithstanding the frowning by the majority of the profession outside of our number, we were the first to open the doors to the admission to membership of properly qualified women. Upon the wisdom of this measure I will not enter into any consideration. Our records show that women are still being added to our number and that the meetings to some extent are being graced by their presence and their intelligent discussion by on themes of much moment.

As I pause for a retrospect, I am saddened with the thought that many faces once familiar are no longer with us. When, however, I recall the names of Martin, of Warner, and of Bowditch, I am strengthened with pleasant memories. Martin, honest, true, a walking encyclopedia of medical and surgical lore; he did not hesitate to use to the best advantage his withering sarcasm in exposing shams and deceit. We shall never see his like again. Warner, bright and cheery, had an inexhaustible fund of humor; he could use his wit to amuse as well as to sting. Of Bowditch, I would briefly say that we loved and respected him for his great worth and for his unsullied honor. Others also, who in the years gone by, have added prominence and dignity to our meetings, I can now recall. Each has left a good record, a priceless legacy that has been an inspiration to me, and doubtless to most of you, who have had the good fortune of maintaining such long and intimate acquaintance.

[5] American Gynecological Journal, 1892.

RESULTS OF MILITARY SERVICE AS EXEMPLIFIED BY CASES FOUND IN THE NATIONAL MILITARY HOMES.

Read at the First Meeting of the Wisconsin Society of National Guard Surgeons, at the Milwaukee Military Home.

BY SURGEON WALTER H. LEIGHTON.

Gentlemen:—It would not be consistent, either with a proper respect for you or a fair consideration of the subject involved, to give you this paper without an apology, felt more by me than it can possibly be by you, for now, in the presence of my peers, I am weak indeed. Words fail to express the gratitude for the honor conferred by your attendance here—yet, in the presence of one of the most eminent surgeons in the world, judge of my embarrassment in attempting anything; but, as I have always been used to obey, I will try to do the very best I can, and hope that I shall be able to do that which will make

you feel repaid for the trouble you have taken to be with us to-day. If I succeed I will thank you, and the account will be fully settled. How little do we know of the long hours of anxious research and study of those *real* students who burn the midnight oil, that science may finally triumph over disease. The *minutia* is the real thing, but who of us can get down to it? Only one in ten thousand. No; we reap the advantage of the work of the tireless students, and often the searcher himself is lost sight of. But thank God, there are those who toil, and those who reap, and in God's providence probably each has his compensation. The one, glad that he can do a little; the other, in the firm conviction that God has allowed him to be the means of doing so much for his fellow-men. I should like to have been one to originate, or probe to the bottom, yet still I am thankful that with the vast improvement, the great advance of the present day, I am in it at all. The change, if not the advance, is great, and undoubtedly it will be found that the new is not all right, or the old all wrong; but still, on the whole, we feel sure there has been a forward movement. Bloodletting had its day, and went out as a snuffed candle, but doubtless, among the profession, there is a feeling that the angle or divide was too abrupt and sudden, and regret that the public sentiment rendered the practice almost disreputable, and that, for the benefit of humanity, it would have been better if a middle course had prevailed. Wonderful strides have been taken since Lister came to the front with his claims for aseptic surgery, yet if we are ever so unfortunate as to have another war, we shall as heretofore, in my opinion, be compelled to face all the mischief and evils inherent thereto, for advanced science can never obviate the results of exposure and privations, of the long and weary march, the night vigil on the lonely picket, or the malarial poison of the swamps—it cannot prevent, with our present knowledge, rheumatism, intermittent fever, cerebro-spinal meningitis, or disease of the heart, liver or lungs, hernia, varicose veins, diseases of the nervous system and brain, for even now the causes of most if not all of these are still in dispute, and have yet to be proved. We cannot, even with our most advanced knowledge of sanitation, prevent disease in any great measure; at least, under the trying ordeals of actual war, nor can we prevent shock from wounds or injuries. We may perhaps by aseptic surgery, when it is convenient and possible, prevent in a degree inflammation, suppuration, and their concomitant evil results, and the ambition of our eminent Surgeon-General, Prof. Senn, for a man to be his own antiseptic panacea, is certainly original, and preëminently grand, but still we must always face nostalgia, shock, inflammation, ulceration, suppuration, necrosis, and the thousand and one remote results of camp exposure and camp life. The conditions and the surroundings on the battlefield must always be different than in private practice. Why let us look to one condition. We were often glad during the late unpleasantness to get men for assistant surgeons who had not even had the advantage of reading medicine with a country doctor, but (as tradition has it) had only taken care of his horse. Undoubtedly, knowledge of surgery and medicine has been gaining ground rapidly for the past twenty-five years, and to-day, the intelligent physician or surgeon who faces disease or wounds with long prescriptions or meddlesome surgery, hoping by a shot-gun policy to hit somewhere, is numbered with the errors of the past. Yet still we are faced by the fact that man must die. Therefore preventive ways will always prove more reliable than all cures put put together. Gross has a passage in his Manual of Military Surgery of 1861, where he says: "The duties and requirements of military surgery are essentially similar to those of civil surgery."

Now gentlemen, I leave it to those of my peers who served in the late civil war to say (with all due deference to the great surgeon, Christian man and teacher who to have his name appended to my diploma is one of the greatest honors) whether the requirements of military surgery do not differ in a greater degree than those from civil practice. To be brief, I remember at the battle of Cold Harbor, to have been one of the assistants to one of the best surgeons (in my opinion) furnished in the late Rebellion, when unexpectedly the Rebels got a range of our field hospital, where we were operating for the resection of the elbow. The operator suddenly got tired, and turning to one of the assistants said, "Can't you finish this operation?" and without waiting for an answer gave up the knife, and he afterwards said in my presence, "By Jingo, he did that better than I thought he could." Circumstances must be different on the battlefield, and the advice of the revered professor of surgery, S. D. Gross, in his manual to young surgeons in 1861, is too good to be omitted here. He says: "The sole object which prompts me to publish this little book, is an ardent desire to be useful to the young physicians who have so hurriedly entered the volunteer service, perhaps not always with a full knowledge of the weighty responsibilities of their position. I pray the young men, into whose hands this manual may happen to fall, to be careful of the health and lives of the poor soldiers committed to their professional keeping. I exhort them to perform their duty as skilful surgeons and physicians, as men of courage and as Christians, in order that when they return to their homes and their friends, after the tumult and peril of war shall be over (if war there should unfortunately be), they may be able to render a good account of their stewardship, and so entitle themselves to their country's benediction. I would also exhort them in a special manner to take good care, not only of the lives of their countrymen, but also of their limbs mutilated in battle. Conservative surgery has, at the present day, claims of paramount importance upon the attention of every military practitioner. For, in the language of good old George Herbert:

"Man is all Symmetrie!—Full of proportion one limb to another, and all to all the World besides! Each part calls the furthest brother, for head with foot hath private amity and both with winds and tides."

We of the past numbers, reverently regard this advice from an old and revered teacher. But, gentlemen, I am wandering away from my subject. I have endeavored to get together a few cases, and give you a paper to illustrate some of the results of military service, as exemplified by cases found in the National Military Homes—established by a generous people, and a grateful Government, for the disabled veterans of the wars of 1776, 1812, 1846 and 1816.

These Homes were first established in 1866, since which time there has been one built at Togus, Me.,

Dayton, O., Hampton, Va., Leavenworth, Kan., Santa Monica, Cal., Marion, Ind., and our own in Milwaukee, Wis.

More than $2,000,000 are annually appropriated by Congress for their support, and about 25,000 veterans are cared for. The only requisite for admission is an honorable discharge, and the surgeon's certificate of disability, recommending applicant for admission on account of being unable to support himself by manual labor, upon which he is taken in by the Local Manager. The Homes are gaining rapidly in numbers, and it is calculated that they will continue to increase for ten years. The cost of medical supplies of the five branches of the National Homes, during the year 1889, was $36,553.26.

Cost of medical supplies per capita, $2.33. The number cared for at this Home during the year 1890 was 2,781, against 2,710 for 1889, and the average number present, and absent for 1891 was 2,420, as against 2,104 for 1889. The maximum was 2,050, the minimum 1,663. The amusements provided for the old veterans in Memorial Hall cover nearly all of the fall and winter months, and last year cost $2,796, which is paid out of the Post Fund—nearly all of which money is made by the sale of beer on the Home grounds.

We have band concerts (by the Home band) in the open air, daily during the summer, which are attended by thousands of the best people of Milwaukee; and in winter there is a concert every Sunday evening in Memorial Hall. The Home library has over 5,000 volumes, and billiard, bagatelle and card tables are furnished for the veterans in the smoking-room. This too is paid for by the sale of beer, which in the opinion of the managers has proven effective in lessening intemperance, as it tends to keep the members at home, and so under control of the management.

The sanitary regulations are under control of the surgeon, and whatever suggestions are made by him, conducive to the health and cleanliness of the members, or other preventives of disease, are fully carried out. Weekly inspections are made of the members and quarters every Sunday, by the officers of the Home, also frequent week-day inspection by the surgeon.

Men with chronic diarrhœa or piles, and a good hospital war record, get good big pensions; while the veterans who served during the war, and came out with honorable bullet and sabre wounds (but no hospital record) receive the miserable pittance of two dollars per month. But to business. The first case to which I call your attention as preëminently suggestive, as a result of the war, is that of John Donahoe, Company G, Fourth Massachusetts Cavalry. It is a case of hypertrophy with dilatation (associate diseases), bronchitis and asthma. Although I think the so-called asthma is really dyspnœa caused by the heart trouble. He has never suffered from vertigo, and worked as a laborer until 1882, when he was obliged to enter the Home at Hampton, Va. The etiology of the case can readily be traced to heavy marching and the strain and excitement of battle. Another soldier of this Home is suffering from rheumatism and disease of heart, stenosis of aorta and hypertrophy, suffers much from vertigo, unable to go up or down stairs without difficulty, associate diseases—injury to spine and chronic gastritis. An exceedingly interesting case is that of Nelson V. Day, who has hypertrophy and dilatation of the heart, with mitral insufficiency, associate diseases, rheumatism dislocates his left hip at will, cannot stand with eyes closed, cannot shut his eyes and touch his nose, absence of knee-jerk, want of coördination in movement—in fact, I have no doubt as to rapidly developing locomotor ataxia. Fourth case. Chas. Sonnen, late of Company A, Thirty-fifth Wisconsin Infantry, enlisted in 1863, served three years. Has suffered ever since the war with rheumatism. I find hypertrophy with dilation and slight aortic stenosis, suffers frequently from dyspnœa and vertigo—associate diseases, neuralgia of face with angina pectoris; suffers much from rheumatism, being laid up four or five months at a time.

Gentlemen, I might go on indefinitely with these cases, as it is thought by some good authorities, that over fifty per cent. of all the cases admitted into the Homes, are afflicted with hypertrophy of heart, stenosis, etc. Not a few cases of tabes dorsalis are found in the Homes, and next year I will endeavor to give you, with other diseases, a tabulated statement or history of some cases, with results as to treatment, etc. But I know I must have wearied you already; and yet, feel that I ought to give you a short account of a case of which you may have already read in the newspapers.

The case of Henry Aulfuss, who was thought to have been murdered by tramps near the Home grounds last May. The man had been a member of the Home for a number of years, and when admitted, the physician's certificate claimed that Aulfuss was disabled by paralysis, but at the autopsy no lesion of brain or cord was found, and on looking up the man's hospital record, I found that about a year ago I had diagnosed his case as heart disease and rheumatism, which the post-mortem verified. The following was our report:

We found that the deceased, Henry Aulfuss, had received in some manner unknown to us from twenty to twenty-five scalp wounds, only three of which penetrated through the skull cap, the most serious wound being about three inches in length and cutting into the external table of the frontal bone. The internal table of the skull was found intact. The membranes were uninjured; no clot, or any evidence of disease or injury, was found in any part of the brain. The trachea was free from any evidence of injury, or any unusual secretion. On removing the lungs they were found to contain air, and floated on being placed in water. Both lungs were congested. On examining the heart, the right ventricle was found hypertrophied and the left fatty, and the walls very thin. The left ventricle contained clotted blood. Two small vegetations were found in the pulmonary valves. One of the most frequent causes of trouble here in the Home is alcoholism, but when we think of the temptations to which the young soldier was exposed, and the privations suffered and the hardships endured by the men who fought to save the country, we would fain draw around them the mantle of charity. One poor fellow in the guard-house said: "You have no business to blame us; you learned us the bad habit, and now we are reaping the results."

No doubt there is much truth in this, for if we consider the youth who, full of energy, fire and patriotism, rushed to the front in 1861 to 1865, many of them nothing but boys (prevaricating as to their

age to get there), and then remember the consequences, when the real life of the soldier began to dawn upon them; when they stood fast and firm through the dreadful carnage, and saw one by by one of their comrades in arms (or even their childhood's playmates) drop out—then when the battle was won or lost, or stopped by the welcome shades of night, only to be renewed at dawn, can we fail to realize the shock to the young heart. Then perhaps, after a hurried dipper of coffee with the hard-tack, the inevitable detail for picket falls to the lot of the poor wearied fellow; is it to be wondered at that an artificial stimulant was necessary before he was able to take another step forward? No; and then the habit was formed, the appetite created which to many thousands was worse than the crack of doom itself. General Sherman said, "War is hell"—and it was. The deadly minie bullet was not the worst part of that hell. Let Uncle Sam continue to be grateful to his defenders, and take the best care possible of them in their old age. There is only a very narrow line between prosperity and adversity, between success and defeat; and they saved to the freest and best of Governments; a government for the people, and by the people, and money cannot pay for the boon.

Gentlemen, change in medicine and surgery should be governed by natural laws, but unlike other advances, it is often subject to the whims of ignorant professionals and the caprice of the community at large. So it is up-hill work for those who seek its improvement.

There are many set-backs, and progress is necessarily slow. Yet with all that we can look ahead, and find much to encourage. Disease in all probability will continue to flourish, in spite of the most advanced science; and although some enterprising Yankee may originate a sublimate filter to wear over the entrance to the trachea and œsophagus, to prevent the inhalation or swallowing of bacilli, yet the improbability of its success is still in the air. Therefore let us not forget that it has been the sad experience of the past, and is likely to be that of the future, that theories and speculations (however promising at first), have been abandoned one by one, and would fill quite a respectable burying-ground, while the utmost difficuly usually bars the way to progress. The road to knowledge has ever been a rocky one; and due praise should always be awarded to the prodder after the truth.

America ought to go to the front. And the claim that this country is young or poor, cannot longer be sustained.

The Government of this great and growing country should help forward the advance and growth of medical and surgical science, by means adequate to the importance of the subject involved. Its honor is involved, and what better use can its treasuries be put to than the protection of its citizens against disease, and bring about this much wished for result; so that America, and not Europe, may be pointed to as the foremost of all the nations of the world in encouraging scientific research. We have among us men with the real keenness for such pursuits, and education fully fitting them for investigation; ripe in scholarship, only waiting for the opportunity when they can shake off the worry and drudgery of private practice, to take up the nobler pursuit of working in the interest of their fellow-men the world over. We read nowadays of efforts to bring into the United States representatives of nations of the globe, so as to bring together the highest products of man; a place where can be gathered for the education of all the industry, energy, skill and character of the world's people. But I ask, where millions are spent for these things, because they bring monied wealth to the United States, where is the Government spending anything for surgical or medical science? Is it not time that the people should recognize the fact that without health, wealth is of no permanent benefit; that without a sound physical and mental organization, money is of no worth; that only with both, can men, women and children enjoy life and the pursuit of happiness. Is it not high time for our Government to encourage the advance of medical and surgical science, by protecting those who are ready, enthusiastic and qualified for this great work?

Let us hope, *pray*, and above all, *work* for this great object.

SARCOMA OF THE PONS AND GLIO-SARCOMA OF THE CEREBELLUM.

Read before the January, 1893, Meeting of the Chicago Academy of Medicine.

BY LUDWIG HEKTOEN, M.D.,
OF CHICAGO.

The following two instances of tumor of the brain are reported in order to increase the number of such cases recorded and described in medical literature.

Case 1. Sarcoma of the Pons.—This case occurred in the Cook County Hospital, where Dr. E. T. Edgerly ascertained and wrote down the clinical history as well as the results of the physical examination; the writer made the post-mortem examination and examined the tumor microscopically.

Man, single, baker, German by birth, 37 years old, was admitted to the Cook County Hospital of Chicago, April 5, 1890. He was his parents' only child; the parents were both dead, the cause of death being unknown. He denied having had any venereal disease, said that he drank beer in moderate quantities, and that he had never been ill before his present sickness, which began with headache three months ago, since which time he had been unable to work on account of the pain, which was of a dull persistent character, with nocturnal exacerbations, principally frontal, but often extending over the entire top of the head. Two days before admission he fell on the sidewalk in a fit of faintness, but did not lose consciousness entirely; he had been troubled with dyspepsia; the bowel and urinary functions had been subjectively normal. The patient on admission is mentally dull and a clear cut history cannot be obtained.

Present Condition.—Patient is well nourished; he lies in bed groaning and complaining loudly of pain in the head, which he grasps with his hands; the right eye is tightly closed, the left is half open; the pupil of the right eye is somewhat contracted, but both pupils respond to light. Movement of the eyeballs seem to be limited, particularly as regards motion upwards and to the left. The tongue is normal and does not deviate on protrusion; the lines in the face seem better marked on the right side. Physical examination of the chest and abdomen is negative; there is no ankle clonus; the patellar and cremasteric reflexes are normal; muscle reflexes are universally present; rough tests indicate the tactile sensibility to be much impaired, thus two points three inches apart cannot be distinguished on the hands or the feet; when half an inch apart on the tongue the two points cannot be separated. Taché cerebrale is very distinct.

Pulse 64, respiration 16, temperature 97.6°.

Ophthalmoscopic examination by Dr. Mary C. Fowler: The discs cannot be outlined at all, yet the vessels are not large and do not pulsate. This condition is more marked in the left eye than in the right.

April 12. Patient suddenly became unconscious while eating and unable to swallow the mouthful of food he had taken; the extremities became cold, profuse perspiration broke out on the skin and the pupils dilated. Patient is taking iodide of potassium in increasing doses.

April 14. Lies in stupor; requires catheterization; refuses food. Right pupil dilated, does not respond to light. Supra-orbital pressure arouses patient sufficiently to answer questions. The right side of the body seems to respond to stimulation more quickly than the left, and often he moves the right side in response to irritation of the opposite half.

At 8 P.M. Dr. Murphy removed a button of bone with the trephine from the skull on the upper end of the right Rolandic fissure. The dura was dense. An aseptic aspirating needle was passed into the brain in all directions from the trephine opening, but no abnormal fluids were obtained nor resisting body encountered. Replacement of button, suture. 12 P.M. Death.

CLINICAL CHART.

Date.	Temp.		Pulse.		Resp.	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
4-5-'90	97.6	98	64	66	16	16
4-6-'90	99	99	70	72	16	16
4-7-'90	98.6	98	66	58	16	16
4-8-'90	98.6	98.6	60	54	18	20
4-9-'90	98.6	98.8	60	58	18	16
4-10-'90	98	98.6	58	60	16	17
4-11-'90	98.2	98.4	56	54	24	20
4-12-'90 . . .	98	98.5	60	60	20	20

Section twenty four hours post-mortem:

The trunk cavities were empty. The heart was of normal size, the semilunar valves competent to water; the mitral and tricuspid orifices admitted three and four finger tips respectively; the endocardium was smooth and the muscular tissue firm and light greyish-red in color. The fossa ovalis presented many small perforations. The lungs contained much frothy and bloody fluid. The abdominal organs presented no special change, contained no tumors. In the scalp over the right parietal eminence was a curved incision and beneath the flap thus outlined was a circular opening in the skull containing an accurately fitting button of bone. The dura was free from thickening, the Pacchionian granulations were exuberant. The pia was quite universally adherent to the surface of both the vertex and the base of the brain. There were small clots of blood in the right Sylvian fissure at the base; there was a small clot along the postcommunicant artery, but the vessel itself was intact. In the region of the upper third of the right pre- and post-central convolutions, beneath the trephine openings, were many small punctures in the membrane and in the brain substance. There was some clear fluid in each lateral ventricle. The brain substance in the hemispheres was macroscopically normal and free from any focal disease. On the internal half of the ventricular aspect of each thalamus were slate-colored, slightly raised areas, and on the left thalamus was a gelatinous body as large as a flax-seed.

The choroid plexus and the pineal gland were thickened and the peduncles of the pineal gland contained some slightly discolored areas. The slaty areas in the thalami extended into the substance for about 1 mm. There were no areas of softening in the thalami or in the crura. The pons was larger than normal, but the enlargement was symmetrical, at the widest portion it measured 5 cm. across from right to left. In the central portion of the pons, Inclining perhaps to the right, was an oval, firm mass, 3.5 cm. in diameter and 5 cm. long, the long diameter lying in a dorso-ventral direction. The tumor was but loosely imbedded in the pons, having no organic connection with the pontine substance, and on attempted manipulation it slipped out entirely. It weiged 17 grams; it was of firm consistency, greyish in color on the cut surface, with many small hæmorrhagic areas, old and young, scattered through its substance. The fourth ventricle was empty; the medulla and cerebellum were normal. The spinal cord was not examined.

Microscopic examination of the tumor, after hardening in Mueller's fluid, shows that it is made up of rather delicate, quite small round and spindle shaped cells, with distinct deeply colored nuclei, densely packed together; there are places consisting principally of round cells, and in other spots mostly spindle shaped cells are found; no distinct stroma can be made out, perhaps on account of the dense crowding together of cells. There are a number of irregular spaces without any plain wall separate and distinct from the tumor structure; in some places the cells immediately surrounding these spaces are, however, much like normal connective tissue cells, often these spaces are quite emyty; some contain red blood corpuscles only or corpuscles mixed with tumor cells; there are also found quite large areas consisting of blood infiltrating with the substance of the neoplasm; in such foci the fibrinous meshwork is usually plain. At the margin of one of these areas of infiltration is seen a distinct, thin-walled blood-vessel, filled with blood which in one place seems to be breaking into the tumor. There are also found a few areas of amorphons, yellowish material. The areas of discoloration observed with the naked eye upon the caudad surface of the thalami consist of masses of round cells, irregular in outline and in size, some being large and some small, and a few seem to be intravascular; here the cells are large and not so closely aggregated as in the pons.

Diagnosis.—Round and spindle celled sarcoma of the pons; secondary foci in the thalami.

Remarks.—It will be seen at once that the symptoms presented by this patient are readily explained by the nature and the position of the intrapontine tumor. The general symptoms such as headache, attacks of fainting and ophthalmoscopic retinal changes, occur in tumors of the pons as well as in other parts of the brain. The headache was intense, of rather uncertain localization and well-nigh continuous. In view of the fact that the pain in such cases is situated in the dura mater, it might perhaps be more reasonable to speak of the headache in this case not as a general but as a focal symptom, due to local compression or irritation of some part of the fifth nerve, near its origin, this being the nerve which supplies sensation to the dura.[1] The varying intensity of many of the symptoms was due in all probability to the occurrence of hæmorrhages into the tumor, which would cause sudden increase in the intracranial pressure. Thus, for instance, the attacks of fainting would result from increased pressure or sudden irritation of the nerve tracts passing through the pons due to the hæmorrhagic extravasations into the neoplasm. The examination after death showed the presence of old and recent, large and small, foci of hæmorrhage into the tumor. In fact the variations in all the symptoms was undoubtedly caused either by varying intracranial pressure or by varying direct compression of important structures in the vicinity of the tumor dependent upon the repeated congestions and hæmorrhages. The rather slight evidences of motor and sensory disturbances during the time the patient was observed in the hospital are attributable to the nature and the position of the growth; it was circumscribed, not in any way infiltrating but rather displacing, and consequently its effects upon the surrounding structures would be due entirely to pressure. The rather indefinite ocular paralysis or paresis and the equally imperfect left hemiplegia was due to the gradually increasing pressure of the tumor upon the tissues around it. The paresis of left side of the body might, for instance, be caused by pressure on part of the tumor in the right upper third of the pons before the decussation of the pyramidal tracts or in the lower left third after decussation. The symptoms were not distinct enough to decide this from a clinical standpoint, and the position of the tumor in the central part of the pons gives no clue as to which part of the tracts would be most compressed unless, indeed, it be those in the right half.

[1] Wernicke, Lehrbuch der Gehirnkrankheiten, Berlin, 1883.

It will be observed from the temperature chart that the occurrence of hæmorrhage into the substance of the tumor was not followed by fall of temperature. Gerhard observed that hæmorrhage into gliomas did not like genuine cerebral hæmorrhage cause persistent lowering of temperature, and proposed to utilize this observation in the diagnosis of this form of brain tumor; vascular sarcoma consequently appears to agree with glioma with respect to the point mentioned. The sudden death may have been due to the operation of trephining; it might also have resulted from lesions of the vagus centres due to the tumor.

The varieties of tumors occurring in the pons are practically two, glioma and sarcoma; a third is formed by a combination of these two into glio sarcoma. Gummata, tubercular foci, parasitic cysts give rise to symptoms identical with those produced by true tumors. The glioma is more frequently met with than sarcoma. Starr[2] collected thirty-eight cases of tumors of the pons in children and youth; of these nineteen were tubercular, ten gliomatous, five sarcomatous, two glio-sarcomatous, one cystic and one unknown. Glioma of the pons and the pons medulla transition usually take the form known as gliomatous hypertrophy; a name which Hun[3] says was first proposed by Kümmel[4] because the growth is not circumscribed but appears in the form of a diffuse hyperplasia of the parts affected, resulting in great increase in size and but little distortion of normal configuration. This name, gliomatous hypertrophy, has been used by quite a number of writers in reporting cases, and among them may be mentioned Hun[3] and Spitzka.[5]

Gee and Percy Kidd[6] termed the same condition gelatiniform enlargement of the pons in their description of cases in the St. Bartholomew Hospital Reports. Glioma is nearly always an infiltrating tumor. Histologically it consists of branched neuroglia cells many of which may be multinucleated; it takes its origin from the neuroglia and grows by proliferation of its cells; as it grows it infiltrates the brain substance, and nerve fibres and ganglia cells swell up and disintegrate as they become encroached upon, though both these elements may persist surprisingly long.[7] It is consequently a really destructive growth in many instances.

Gliomata are frequently telangiectic. Klebs[8] maintains that the nerve fibres and ganglion cells take part in the proliferation, and he consequently calls the tumor neuoglioma. Spitzka[9] describes an excellent instance of neurogliomatous hypertrophy of the pons medulla transition which in parts showed actual destruction of nuclei and nerve fibres; compact nerve strands seemed to present resistance to its destructive efforts, while ganglionic and capillary districts favored its extension.

Sarcoma of the pons may occur as an independent growth, unattended by neuroglia proliferation, and it is thought to be developed from the sheaths, or the actual walls, of blood-vessels. As in the present instance they usually present rounded, extremely loosely connected, sharply defined masses of various sizes; sometimes they possess a distinct vascular membrane. The histological structure does not in any way differ from that of sarcoma elsewhere, and when hæmorrhagic foci are present in great number the vessel wall will usually be found to consist of embryonal connective tissue. When some gliomatous structure is present, then the tumor is usually spoken of as a glio-sarcoma, and it may manifest the infiltration tendency usually observed in the glioma. Thus Simon[10] reported a case of glio-sarcoma of the pons which consisted of small round cells, neuroglia cells and in places large cells, with a manifest tendency to infiltrate surrounding structures. Most authors expressly state that sarcoma of the pons is not infiltrating as a general rule (Zeigler, Wernicke, Eichhorst); Henoch,[11] however, details an intra-pontine sarcoma which presented no sharp boundary, but which seemed to extend diffusely into the substance of the pons from a number of minute foci secondary to the principal mass.

While glioma and neuro-glioma of the pons as well as of other parts of the brain usually appear single, sarcoma tends to give rise to vascular metastasis, which is also shown in the present instance in the secondary foci in the thalami, some of which are quite distinctly intra-vascular.

Case 2. Glio-sarcoma of the Cerebellum.—The following case was in the Cook County Hospital in a homœopathic ward in the spring of 1890, but there is no record extant of the case from that time, and consequently I can only give such clinical facts as have been gathered from family and friends after the patient's death.

Man, age 45, was in good health up to May, 1885, weighing 200 pounds and of imposing physique. At about that time he was engaged in raising an old building, and his son crawled under the building; fearing some injury he attempted to drag him out and during his efforts the building fell, striking him on the back of the head and the neck and driving his face into the sand. Owing to his great strength he was able to extract himself, producing in so doing lacerated scalp wounds. He recovered from his wounds and did not complain of any pain until the following winter, when he suffered for several months with severe headache which was diagnosed by his attending physician as neuralgia. The summer following he did his usual work, but he never seemed quite well. The second winter the pain in the head returned, was principally occipital, and this time it was worse than before; he also had vertigo and nausea. The remissions in the headache grew shorter and the attacks longer, and from this time (1888) until his death July 5, 1890, the pain in the head steadily increased until he at last died from exhaustion. For a short time before death he was totally blind. He was treated from time to time in hospitals. by ordinary practitioners and by authoritative specialists, under various diagnoses, a favorite one being spinal meningitis; he was blistered and burnt and received all the anodynes in the pharmacopœia. The above facts were obtained principally from Dr. Charles Caldwell, of Chicago, to whom I am greatly indebted for the request to make the post-mortem examination. The doctor adds: I knew him personally for many years, but I never had him under my professional care. I have never in a practice of twenty-five years' duration seen any one suffer such terrific pain as did this man.

The post-mortem examination was made twenty-seven hours after death. The neck and head only were examined.

Examination of the cervical spine, of the cervical portion of the spinal cord and of the organs of the neck was negative. The calvarium was free from any change; the dura was very tense and could not be pinched up into a fold anteriorly near the crista galli; there was no fluid in the subdural space; the brain filled the cavity completely, the convolutions were much flattened, the sulci apparently obliterated. The pia showed uniform injection of its vessels, large and small, and at a little distance it presented a rosy or pink color. It was not adherent to the dura, but it peeled from the cerebral surface with difficulty. On removing the brain, clear fluid spouted like a fountain

2 M. Allen Starr, Medical News, July 12, 1889.
3 Hun, Medical News, October 1, 1887.
4 Kümmel, Zeitschrift für Klin. Med., B. 2, Heft. 2, Berlin, 1883.
5 Spitzka, N. Y. Medical Journal, March 27, 1886.
6 Angel Money, London Lancet, May 12, 1883.
7 Zeigler, Text-book, 1887.
8 Klebs, Vierteljahreschrift für prakt. Heilkunde, 125, 133.
9 Spitzka, Loc. Cit.
10 Simon, Zur Casuistik der Tumoren der Pons, 1887.
11 Henoch, Charité-Annalen, V, 1880, p. 461.

stream from the vicinity of the base beneath the hypophysis. Inspection of the brain shows uniform pinkish color due to vascular injection; this is the case both in the dorsal and the ventral portions. The brain substance is very firm, the encephalic cavities contain much clear, almost colorless fluid and they appear enlarged, dilated; the velum over the third ventricle is distended and appears like a greyish band; the fourth ventricle is empty; the oblongata seems compressed. Underneath the tentorium is seen a hard, nodular projection from the left cerebellar hemisphere, it is covered by a thin stratum of cerebellar substance and by thickened pia in which run large, tortuous vessels. To be more accurate—it is found that the postero-superior lobe of the left hemisphere is occupied by an oval tumor, presenting a projection beneath the tentorium. The long, or dorso-ventral diameter of this tumor is 2, the short or verted 1½, and the transverse 1½ inches; it encroaches some on the vermes, *i. e.*, beyond the median line; it is everywhere surrounded by cerebellar substance which dorsally is very thin, and in the thickened pia are numerous large, tortuous vessels, especially around periphery of the tumor projection. The cut surfaces of the tumor show areas of hæmorrhage of irregular size and age, large and small districts of homogeneous, greyish-yellow gelatinous substance in a bed of firm, whitish-grey tissue. The tumor seems simply imbedded in the cerebellum, it has no distinct capsule, and yet it has no distinct connection with the cerebellum except the vessels seem to pass into it on all sides—especially, however, from above. It cannot be said that there is much softening around the tumor.

Microscopical examination shows this tumor to consist of various kinds of tissue. In places, especially at the peripheral portions, it is composed of branching cells like the neuroglia cells; the fibrils are delicate and the cells small with large nuclei; in an occasional cell more than one nucleus is seen. In the central portions there are areas of pure round cells without projections and in every way like the cells in round-celled sarcomas; then again there are more or less homogeneous areas without any definite cellular structure; there are also foci, composed of granular brownish pigment and blood corpuscles as well as areas of recent hæmorrhagic infiltration. The vessels are numerous and large, comparatively speaking, with many saccular dilatations, and the vessel walls are all very thin and, in places, are simply canals, containing blood, without distinct walls; in two places blood is seen in the act of passing into the tumor through the embryonal wall.

Diagnosis.—Telangiectatic glio-sarcoma.

Remarks.—In this case one interesting feature is the apparent causal connection between the injury and the development of the tumor. Quite a few cases presenting just as distinct, apparent traumatic origin, if not more so, are found in the literature. Eichhorst records two cases in which a sarcoma of the cerebellum and a glioma of the pons followed injuries to the head in two boys, resulting in death one and one-half and eight months respectively, after the trauma. Curschman, cited by the same author, observed a sarcoma develop at the site of an injury causing a fracture of the skull. Starr remarks that there seems to be no doubt that blows and falls on the head may cause intra-cranial tumors, and in fact many writers attribute the frequent falls of children on the back of the head as explaining in part the greater numbers of tumors in the posterior cranial fossæ in early life.

The fact that the tumor has developed immediately after and is apparently the result of an injury is thought by Bramwell to suggest that it is either a syphilitic growth, a sarcoma, a glioma, or a scrofulous tumor.

The length of time intervening between the receipt of the trauma and the appearance of symptoms in the case described, was about six or eight months; during this time the tumor may have been latent, the general symptoms being due to the gradually increasing intra-cranial pressure and the encroachment of the growth upon the vermes, because it is only when this portion becomes affected that vertigo, nausea and vomiting and other symptoms, more or less characteristic of cellular growths, appear.

Death in this case undoubtedly occurred in coma in consequence of the continually increasing intra-cranial pressure.

Anatomically the tumor appears to be a quite typical example of glio-sarcoma with large and embryonal blood-vessels, and consequently presenting a favorable condition for the occurrence of hæmorrhages, congestions and areas of softening, with the sudden exacerbation of symptoms usually observed on this account in similar growths; exacerbations which by some authors are utilized in the differential diagnosis between the various kinds of tumors, because they can only occur in vascular or telangiectatic growths, such as sarcoma and especially the soft varieties of glioma. This tumor illustrates well also the production of internal acquired hydrocephalus due to pressure at the base of the brain upon the veins of Galen, and perhaps upon the passage between the third and fourth ventricles.

119 Loomis St.

A NEW KNOT TYER.

BY A. H. CORDIER, M.D.,

OF KANSAS CITY, MO.

In doing abdominal and pelvis surgery much valuable time is often expended in tying sutures and ligatures in the recesses found in these localities. Feeling the necessity of some device to minimize the time in doing this difficult part in this class of surgery I have devised an instrument known as the "Cordier knot tyer." The working of this instrument has proved to fill in every respect my greatest expectations. Its application has a wide range and will I trust prove to be as invaluable to others as it has been serviceable to me.

I will briefly mention a few of the many operations in which this instrument can be used to a good advantage in saving time and doing good execution.

In a vaginal hysterectomy where the uterus is fixed and it is impossible or unadvisable to drag the organ down within easy reach and where the operator is using ligatures on the broad ligaments or even in the vaginal vault, where the sutures are introduced to stitch the peritoneum to the cut edge of the vagina as is recommended by Martin, the application of the tyer here is indispensable.

If an artery is divided in an inaccessible locality, to tye with the hands, the tyer will quickly secure the vessel and permit of the forceps being removed at once. In vesico-vaginal fistulæ the sutures can be tyed in an incredible short period by the aid of the tyer.

In performing an Emmet's operation on the cervix in a small vagina or on a cervix that is not within easy reach and where the operator is using silk or catgut or even silver wire or silk worm gut, the knot can be run up and tightened as quickly as if on the surface of the body.

In performing the Eastman operation or total abdominal hysterectomy, the instrument is indispensable as a time saving device.

In supra-pubic cystotomy for the removal of tumors or an enlarged prostate of ligatures or sutures are to be used, the operator is certainly working to a great

disadvantage without an instrument of this kind to do the tying quickly.

Where the surgeon is operating to remove an impacted gall stone in the cystic or common duct and it is found necessary to split the duct over the site of the stone, the tyer will aid him very much in tightening the sutures when he comes to closing the opening made in this canal.

In the small capillary bleeding hæmorrhoids where the hæmorrhage may be so great as to endanger the life of the patient, the quickest and surest procedure is to ligate the small raspberry like tumor; the tyer here is of much service, making a tedious procedure very quickly and easily performed. This variety of hæmorrhoidal tumors is usually situated high up in the rectum. Allingham has well said, "The secret of the well being of your patient (in ligating internal hæmorrhoids) depends greatly on this tying— a part

of the operation by no means easy as all practical men know, to effect."

Of 29 cases of spleenectomy 14 died directly from hæmorrhage and 3 from shock. The difficulty in tying the vessels and the great *shock* produced by dragging on the pedicle can be avoided by the use of the tyer. The application of the instrument has a wide range.

The tyer as the reader will see by the cut has the same arrangment governing the movements of the blades as is used in the Knott's deterine dilator. The carriers have automatic threading ends, this permits the ligatures to be quickly placed in position to be tightened as soon as the handles are closed. Between the blades (see cut) is the loop carrier, which carries the loop down to the exact place where the surgeon desires the knot to be tightened, this carrier holds the loop or knot stationary while the blades are being separated and the knot tightened. The ends of the ligatures are held in the left hand of the surgeon. As soon as the knot is tightened down on the vessel or the suture is so secure that it will hold its place the carrier automatically retracts. The sutures may be tightened even with more force than it is possible for the hands to stand without the ligature cutting the fingers.

These are a few only of its many applications. The tyer is manufactured by Wm. H. Armstrong & Co., Indianpolis. Ind.

Kansas City, Mo., 1024 Walnut St.

SKIN GRAFTING UPON THE CRANIUM.

Presented before the Chicago Medical Society.

BY FREDERICK C. SCHAEFER, M.D.,

OF CHICAGO.

PROFESSOR OF CLINICAL SURGERY, NORTHWESTERN UNIVERSITY MEDICAL COLLEGE; PROFESSOR OF SURGERY, WOMAN'S MEDICAL COLLEGE; SURGEON TO WESLEY HOSPITAL.

The patient I present this evening has been cured for five years. I exhibited her before the American Medical Association in the spring of 1887, when the new scalp covered about three-fourths of the skull. In September, 1887, the case was reported in the International Medical Congress in Washington. At this time there remained an open spot upon the head corresponding to the dimensions of a silver half dollar; a month later this was also covered. The scalp is complete and has been in this condition ever since November, 1887. It may now be appropriately entered upon record as a cure.

Since the subject of skin grafting was first introduced by M. M. Reverdin and Frank Hamilton, innumerable and varied trials have been made to close wounds by this procedure, with variable degrees of success, all over the civilized world, but an extensive search of the medical literature gives very meager information concerning skin grafting upon the cranium.

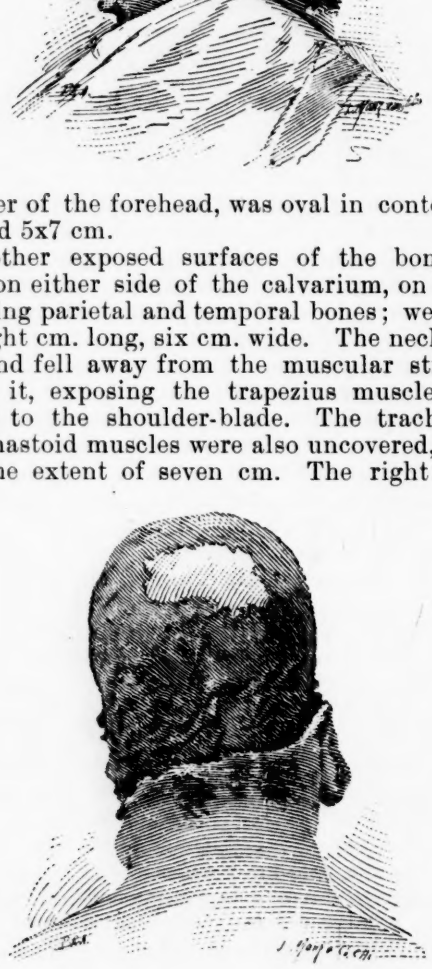
This young lady, twenty-four years of age, was at work in a laundry under a revolving shaft, July 9, 1886. The shaft was between four and five cm. below a heavy beam, and about twenty-five dm. above the floor; it was making 225 revolutions a minute, as computed by the engineer. The girl was said to have reached up for something on the wall, when the wind blew her hair toward the shaft; instantly she was drawn against the beam and shaft, and fell back to the floor without her scalp.

The narrow space between the beam and shaft doubtless saved her life. She then walked up stairs (the accident occurred in a basement), where I found her sitting in a chair moaning piteously, presenting a most ghastly, heartrending appearance. The entire skull was laid bare, from the margin of the eyelids to the neck. The nasal bones were uncovered and broken, exposing the superior nasal meatuses. The skin of the eyelids was removed from within three mm. of their edges. The border of the wound was traceable from the lower portion of the left external angular process of the frontal bone and margin of the left upper eyelid, downward and backward below the left ear, which was entirely removed; thence the

wound extended across the neck five cm. below the superior curved line of the occipital bone, and could be traced forward through the lower third of the right auricle, to the right external angular process of the frontal bone and margin of the right upper eyelid, across the right lid, nose, and the left lid to the point of commencement. The superior border of the left zygomatic process was broken, exposing the cavity within the process. Every vessel and nerve supplying the scalp was torn off, and the pericranium was lost in three places; one spot, corresponding to

the center of the forehead, was oval in contour and measured 5x7 cm.

The other exposed surfaces of the bones were located on either side of the calvarium, on the corresponding parietal and temporal bones; were elliptical, eight cm. long, six cm. wide. The neck flap of the wound fell away from the muscular structures beneath it, exposing the trapezius muscle almost halfway to the shoulder-blade. The trachelo and sterno-mastoid muscles were also uncovered, the latter to the extent of seven cm. The right ear was



torn through its lower third, and hung at the side of the neck by an isthmus of skin less than five mm. in width. The exposed surface of the wound measured forty-five cm. in length from before backward, and thirty-nine cm. in width near its central portion. The sutures of the cranium were distinctly seen at several places. There were only a few muscular fibres left upon the head—a portion of the temporal muscles on either side, and the levator palpebræ muscles in the orbits Hæmorrhage was profuse; the temporal, occipital and posterior auricular arteries had to be tied.

I came to the patient within three-fourths of an hour after accident occurred. Controlled hæmorrhage, examined the scalp, wrapped the head up in carbolized gauze. The scalp was thoroughly mangled and covered with fragments of hair on its inner surface, which had to be removed. In order to save time, I sent for my friend and neighbor, Dr. J. D. Skeer, to assist in the immediate treatment of the case. Dipped the scalp in warm carbolized water,

picked off the broken hairs from its inner surface, and cut off the hair from the outer surface, while Dr. Skeer prepared the head for the reception of the scalp. Together we freshened the edges of the wound, stitched the scalp back by continuous suture, and sewed the right ear in its position. Applied iodoform over the entire suture, and coiled small narrow sacks filled with warm sand about the head to keep the scalp warm.

After three days, uncovered the head and cut

through the scalp in several places to let out the pus which had accumulated beneath it. On the seventh day removed all dressings. The scalp was now permeated with gases of decomposition, and baked firmly against the calvarium in many places. Removed it. The right ear was warm and joined at the sutures. During the first three weeks we had little hopes for the patient's life. Her pulse varied from 90 to 130 per minute, while the temperature fluctuated between 100° and 140° F. Was delirious about

three weeks, having lucid intervals; her head had to be propped up with pillows. After the second week her neck became stiff, the muscles were rigid, neck turning to one side. To overcome this tendency, had the bed turned so that it became necessary for the patient to move her neck in the opposite direction. Also had her exercise the neck by rotating and bending it. The optic nerves were extremely sensitive. Vision weak at $\frac{4}{20}$. She complained of noises in

both ears. Hearing distance, right ear, $\frac{6}{40}$; left ear, watch C. During the fifth week she left her bed and walked about the room.

Six weeks from the day the accident occurred, I concluded that skin grafting might be most promising of satisfactory results. Suppuration was very

free at this time, and the patient was too feeble to permit of any treatment requiring extensive operative procedure. I therefore, on the 15th day of August, took thirteen epidermal grafts from the flexor side of her sister's arm and placed them upon the patient's eyelids four mm. apart. By way of experiment, four of them were placed upon the center of the cranium in direct contact with the granulation tissue, the others near the edge of the wound upon the eyelids, where there was the least suppuration. The head at this time was covered with granulations from the pericranium, excepting in places where the periosteum was lost; these were gradually covering in also, from their margins. The grafts were held in place with fish skin, and the bandages were permitted to remain in position forty-eight hours, when the four grafts upon the vertex presented

a pink color, and five of the grafts over the eyelids were washed away by the pus. I then attached eighteen grafts, eight on top and ten near the margin, as before. After another forty-eight hours all on the top of the head were pink, the four previously planted were spreading. Those near the margin of the wound remained also, but did not look as good.

The constant accumulation of pus interfered with the growth of the marginal grafts. I was therefore lured on to place the greater portion of them near the vertex in semicircles, coming forward to meet those which were growing over the lids. October 12, my notes say there is a piece of transparent skin, thirteen cm. long and seven cm. wide, extending from the eyelids backward, besides twenty pieces, varying in size from a ten cent piece to a quarter of a dollar,

uoon the sides. On the 15th of October, noticed, that the new skin began to liquefy in spots. October 17, 2 o'clock A.M., a copious hæmorrhage occurred from one of the venous channels between the tables of the right parietal bone; the blood ran forward and to the left side, beneath the front half of the new skin, which was thus destroyed. A few days later the other half was perforated by many small ulcers. In ten days more it also disappeared. Over two months' work was destroyed in as many weeks. The amount of tissue lost would be represented in one piece by an oval measuring fifteen cm. by 11 cm., to produce which 915 grafts were required. Altnough somewhat discouraged by this disaster, we were not dismayed, but endeavored to retrieve our loss by vigorous grafting.

Having noticed that the skin derived from the epidermis, chiefly, was very thin, immovable and short lived, I resorted to *dermal* grafting, picking up each time, also, a few fibers of subcutaneous connective tissue. Suppuration having greatly diminished, all of them were placed about the circumference of the wound. About sixty-five per cent. lived. During this month, November, two irregular pieces of bone measuring 3x2 cm., were removed from the outer table, where the pericranium was gone.

December 1st, there was an irregular band of skin around the entire head, six cm. wide in front, and four cm. wide at the back and sides. The last two series of grafts did not thrive. Up to this time heterodermal grafts only were brought into requisition from her sister and three brothers. As the patient was now able to walk out of doors, she gained in strength, and the thought occurred to us—Dr. Skeer, who called to see her at this time, and myself—that tissue taken from her own person might do better than the heterodermal material. On the 24th of December, commenced taking grafts from her left arm. The rapidity of the growth of her own grafts was simply marvelous. For example: One day thirty were placed in a double row, set three mm. apart. In thirty-six hours they put on a pink color. Three days later they were joined in one piece. The connecting parts were slightly depressed, and of course quite thin. By the eighteenth day a few hair like vessels were detected in the new tissue. Eight times after our first misfortune, numerous ulcers started at different places. At one time there were eighteen of them. They were evidently caused by the contraction of the subcutaneous tissue, whereby the fine vessels were broken.

Many of the ulcers healed of themselves, but the larger ones were assisted by autoplastic grafts; 4,500 grafts were planted, of which the patient supplied 1,800.

May 1, 10th month, there remained uncovered four spots, each a trifle larger than a silver dollar. I expected to complete the scalp in four weeks, when suddenly her strength gave out. She took a severe cold, suppurative inflammation of the left middle ear followed, the mastoid process became very tender, and a dozen new ulcers appeared; two large ones, each about twelve cm. long and from one to three cm. wide. The combined area of all might have been represented by a circle sixteen cm. in diameter. The patient was almost disheartened; she slept only three hours of a night for three weeks; her head ached, sight grew dim, and I feared leptomeningitis was about to occur. Gave her opiates and tonics. After three week's depression she reacted, when grafting was resumed. Occasional discouragements have been met with since, but now she feels good; says the head and eyes seem as strong as before the accident occurred. Her hearing has greatly improved also.

From the beginning, the entire wound was treated antiseptically with carbolic acid, iodoform, and corrosive sublimate. It was dressed with strips of carbolized gauze prepared with 2½ per cent. solution. The strips were 6 cm. wide, 30 to 35 cm. long. A layer of them, which came in direct contact with the granulations, was anointed with vaseline, so that it could be readily removed, then a series of strips was superimposed upon each other; next a piece of lint covered on one side with vaseline was placed over these and external to the lint a roller bandage made of cheese cloth was wrapped about the head. This formed convenient and serviceable dressing. The lint and strips were easily removed. The insterstices of the gauze, by capillary attraction, drew the secretion from the wound's surface; the lint prevented too rapid evaporation whereby the dressings were kept from baking against the wound. The outer bandage retained the other parts in place. Thinking the lint heated the head, by way of experiment it was left off; but each time the dressings were stuck against the cranium, so that they were removed with difficulty, therefore continued using it.

At first the grafts were held in place by means of a piece of fish skin, which after thirty-six hours began to liquefy, and could be removed with a sponge. Repeated experiments caused me to discard this. The fish skin would break down, commingle with the secretion and help to macerate the grafts. Next tried McIntosh dressing. This heated the tissue too much, and the grafts were often found floating in the fluid beneath it. Having observed that the secretion always clung to the gauze dressing, that as a rule the thicker the layer of gauzed used, the less discharge remained upon the wound's surface, I concluded to place a pad of oiled carbolized gauze upon the grafts instead of the rubber or fish skin, This worked remarkably well. Six or eight thicknesses of gauze, extending two or three cm. beyond the grafts in all directions. were applied. This had the desired effect of absorbing the secretion, reducing the heat to a minimum, while the grafts generally remained in place. The grafts usually assumed a pinkish appearance in forty-eight hours. Occasionally a series of the autoplastic grafts when the patient felt exceptionally good, would be almost pink in twenty-four hours. Many of them, however, gave no evidence of being alive until after seventy-two hours. Several times grafts which hung to the dressings, covered with serum after forty-eight hours, being replaced, took hold and lived.

The progress of the growth of the new skin was similar to the description of M. Riverdin. A narrow, one mm. zone of hyaline tissue, somewhat depressed, surrounded the grafts in ninety-six hours; this grew with variable degrees of rapidity until the grafts were joined, then it grew thicker. After three weeks, sometimes a few days earlier or later, fine vessels were traceable in this new tissue; these increased in size until the skin was literally a network of vessels. As they continued developing it was noticed that the larger ones were directed upward. Later some of them assumed very nearly the position of the

normal arteries, like the temporal, occipital, etc. Now many of them have a bluish color, being evidently veins. The grafts were derived from her sister, three brothers, and herself, aged respectively seventeen, nineteen, twenty-four, twenty-seven and thirty years. They varied in size averaging about four by three mm., the central portion consisted of the entire *derma* with subcutaneous tissue, the marginal portion comprised epidenmus only. Simply a fold of the skin was lifted with the sclerotica forceps and hastily snipped with iris scissors. When removed their under surfaces curved inward. They were then spread out and laid in direct contact with the granulations. The peculiar form of the grafts seemed to exert a favorable influence upon them. Their inward curvature caused them to cling closely to the granulations and an immediate suction action took place. The patient said she could feel them draw as soon as they rested upon the head. I have no doubt that the empty vessels in the grafts expedited this process.

Many times grafts six by seven cm. were tried without success. Tissue with hair was also applied; but the hair bulbs atrophied. Ten to one hundred grafts were planted at a sitting. Most of the time twenty to thirty only were used. Usually two days intervened between the graftings. Frequently, however, several weeks' rest had to be given the patient, on account of her weak condition.

All of the skin from the margin of the superior eyelids upward presents the characteristics of the normal skin. It is pliable, soft and movable. The lower half can be pinched up in folds. It imparts a velvety sensation to the fingers when touched. Furrows with pores opening into them are plainly visible with the hand glass. Follicles are abundantly present.

Her head sweats freely all over, and the new skin feels to the patient like the skin in other portions of her body. The eyelids are somewhat retracted, less, however, than they were four months ago. The younger portion of the tissue appears quite red, myriads of small vessels can be seen in it. As the skin grows older, the smaller vessels gradually disappear from view; others appear larger; the integument assumes a more normal appearance as to color and consistency. It also becomes more movable owing to the development of subcutaneous connective tissue. One cannot see where the new skin begins upon the eyelids. The lids close perfectly so that the lady sleeps with closed eyes.

Our works on surgery give no statistics, although at different times such accidents have occurred in the manufacturing States of our country. After having written many letters to physicians for information, concerning cases which came under their observation or treatment, I received responses from two only. I have imperfect reports to give of six cases:

Case 1.—A girl, nineteen years of age, lost her scalp fourteen years ago, in the Elgin Watch Factory, Elgin, Ill. Dr. E. Powell, of Chicago, informed me that the wound extended across the forehead above the eyebrows, and that her ears were not touched. Skin grafting was tried repeatedly in this case, with no results. Was told by a surgeon who saw her recently that one of her eyes was lost since by exposure occasioned by retraction of the eyelids.

Case 2.—Gross' "Surgery," last edition, makes mention of a young lady who lost her scalp in a factory in Philadelphia, 1869. He simply says the wound cicatrized over.

Case 3.—Reported in the "Surgical History of the War," Part I, p. 315. A conductor on the Union Pacific Railroad, was scalped by the Sioux Indians, near Cheyenne, in 1869. Wound as indicated by the illustration given, was elliptical, measured about 10x8 cm. A portion of the outer table of the cranium was removed. The wound healed over.

Case 4.—Reported by her employer, Mr. E. F. Smith. Miss Hattie Thomas, of Union City, Conn., March 29, 1871, in a button factory, placed her head under a swift running shaft, to pick up a button when her hair was caught by the shaft and her scalp taken off from the nape of her neck to her eyebrows. Her physician was Dr. S. C. Bartlett, now deceased. He cleaned the scalp and placed it upon the head about two hours after it was torn off, but it did not stay long. Then commenced skin planting. Had the head almost covered twice. Each time it was lost. A third effort proved successful in healing the wound, so that she was able to work after two years.

Case 5.—Miss Newman, Bristol, Conn., had her scalp torn off by her hair catching in the machinery in a mill where she was at work during the past winter. The entire scalp was gone, an eyelid and an ear slightly torn. She wns treated by Drs. Wilson and W. E. Way, of Bristol. Result of treatment not given. "The Hartford Times" of last July, contained an advertisement for volunteers, to furnish skin for grafting.

Case 6—Reported by Dr. W. W. Horton, of Unionville. Conn., June 12, 1885. Rosa Flynn had her entire scalp torn off by her hair catching in the shafting of a paper mill, Unionville, Conn. The scalp was torn from the back of the neck around, just above ear to the nose, taking the eyebrows. There was also flap torn down the right side of the face nearly to the mouth. I treated her for one month, then sent her to the Hartford Hospital, where skin grafting was tried. Both human and rabbit skin was used. It was a failure. Lids are retracted. The wound is still open. Hæmorrhage occurs from the capillaries when her head gets on a lower level than her body. Expect the wound will cicatrize over in another year. It will be noticed that in none of these cases was the wound as extensive as in the one under consideration.

Deductions from experience in this case.

1. When grafts are set within five mm. of each other, a stronger skin is produced than when they are placed further apart.

2. A graft will grow to many times its dimensions, so that a circular graft three mm. in diameter will form a piece of skin eighteen mm. wide, but the skin will not be as strong or of as good a quality as when the grafts are closer together.

3. *Dermal* grafts with a few fibres of connective tissue form a smooth, soft, pliable, movable skin, presenting the characteristics of normal integument.

4. Epidermus placed on the cranium produces only a thin film, which ulcerates readily.

5. Auto-dermal grafts are more reliable than hetero-dermal grafts, providing the subject is healthy.

6. Grafts from a person near the patient's own age do better than from one much older or younger.

7. With *dermal* grafts the follicles are preserved, whereby the patient is made more comfortable, the skin produced is more natural, hence more durable.

8. The most reliable skin is formed by grafting about the circumference of the wound, say one or two rows, producing a narrow strip one cm. wide, and waiting until the blood vessels are well developed in it, then plant another series close to the last ones. By this plan, contraction in the marginal tissues takes place in advance of the subsequent graftings, diminishing the liability for the ulcerative process to occur by reason of such contraction.

9. The new skin is fed by the tissue upon which it rests, probably by osmosis, but depends for its permanent sustenance upon the vessels growing into it from the circumferential tissue. This fact is thoroughly established in my mind, as it was frequently demonstrated by the death of the patches of new skin removed from the marginal tissue. Time and ma-

terial can therefore be saved by constantly grafting from the circumference in large wounds.

10. All things considered, grafts will grow better in a new wound than in an old one; and the more recent the wound the more certain are they to thrive. In the present case, during the last three months, notwithstanding the improved physical condition of the patient, only twenty per cent. of the auto-dermal grafts took, while six months ago eighty-five per cent. could be depended upon.

582 Washington Boulevard.

DOMESTIC CORRESPONDENCE.

PHILADELPHIA LETTER.

The fortnight of Siberian winter which prevailed during the early part of January, has been succeeded by a genial thaw, which has filled the streets with indescribable compost, and the air with germs and moisture. Diphtheria and scarlatina are still with us; but are on the decline. No cases of small-pox or of typhus have appeared in this city for many months, but typhoid fever and phthisis claim entirely too much prominence in the weekly death returns. The City Board of Health is not as fully sustained by public sentiment as it should be, and in fact has been criticised for the continuance of diphtheria, of which there have been from ten to twenty cases daily. It probably should have done much more; but it has had difficulty in securing sufficient funds for properly carrying on its work. The method of dealing with contagious disease in the city is as follows:

All practicing physicians are required to report every case of contagious disease (not including consumption) within twenty-four hours, under a penalty of $50 for neglect.

So soon as a case of diphtheria or other contagious disease is reported, no matter what the circumstances of the family may be, a medical inspector is promptly sent to the place to make an inspection. If he finds that it is a case which cannot be properly cared for at home, he sends it to the Municipal Hospital, and institutes proper measures for disinfection, and holds the place under observation until the period of incubation of the disease has passed. If the disease is one which does not require such rigid measures, he holds the case under supervision during its entire continuance. It is his business to supply families with circulars, giving plain instructions as to the management of the disease from beginning to end, and after convalescence; or after death, should it occur.

A medical inspector is sent to coöperate with the medical attendant in all necessary precautionary measures, and, if disinfection cannot be properly carried out by the family, a disinfector is placed in charge of the work, the disinfectants, chloride of lime, liquid carbolic acid and sulphur, being furnished gratuitously. If there are children in a family where contagious disease exists, it is the practice to notify the principal of the school where the children attend, to that effect. A patient is always isolated and the family cautioned to prevent intercourse with the house. When this advice is not taken, and where there is a lack of confidence of the ability of a family to carry out sanitary measures, it is the practice to place watchmen before the premises to see that the instructions of the Board are complied with.

The Board, also offers freely to the poor the use of disinfecting chambers and cremation furnaces at the grounds of the Municipal Hospital, for disinfecting such articles as cannot be done at home. The rules governing the burial of bodies are strictly enforced. The medical inspectors, of whom there are 15, are giving the greater part of their time to the supervision of diphtheria cases, while five disinfectors are employed to purify houses where diphtheria is prevalent.

The Health Officer, Major Veale, has to contend with doctors who are loth to report contagious diseases until the cases terminate fatally, and with others who hold to the theory that diphtheria and scarlet fever are not contagious. He thinks that there ought to be a building, or series of buildings, where persons who are liable to contagion could be taken and kept under observation, their homes in the meanwhile being thoroughly disinfected. The city at present, generally speaking, is in a fair sanitary condition.

There is a movement now on foot to establish a special hospital for the treatment of diphtheria, or of infectious diseases other than small-pox, for which a Municipal Hospital already exists. Provost Pepper of the University, has come out with a strong appeal in the *Public Ledger* from which we take the following paragraphs:

"When will the people come to be willing to pay for the inestimable blessings of preventive medicine? Do they not know that modern methods of isolation and disinfection enable us to prevent the spread of infectious diseases, if the patients are placed under proper conditions? The germs of these infectious diseases retain their vitality and their virulence for a long time. They attach themselves to furniture and clothing. They are carried by physicians, by nurses, by relatives. Infected linen is sent to the laundries, and a fresh centre for the spread of the disease is created. Cases in families, after arriving at a hotel, develop. There is no suitable place to send the patient. The occurrence is concealed as far as possible. Isolation is impossible. Disinfection is imperfectly carried out. The germs of the disease remain in the apartment and may also be diffused widely. So long as there is no attractive, properly constructed and well administered special hospital for contagious diseases, with isolation wards for each of the chief affections, it is impossible for the community to escape the grave consequences of their neglect.

"The Municipal Hospital answers an excellent purpose, but there is needed in addition a special hospital, more centrally situated, with accommodations adapted to the various classes of patients, and with a staff of attending physicians of large experience in the treatment of these diseases. There need be no objection to the location of such a hospital near the centre of large cities. A sufficient space should be secured, but it would not require an extensive tract. Proper construction and careful administration would remove any chance of the disease spreading in the neighborhood.

"The prompt removal of each case of contagious disease from hotels, public institutions and as far as possible from private residences to such a hospital would effect a vast saving in life and in the risk of the disease spreading. As a matter of fact, the well-to-do classes will not allow one of their family to go to the Municipal Hospital save under the constraint of law, in the case of small-pox. As a further matter of fact, it would be essential that all respectable physicians in the community must have the privilege of attending patients whom they may send to such a special hospital as is here urged. Otherwise it would be idle to hope for the coöperation of the profession or the support of the community."

This proposed hospital has met with general favor among physicians and Dr. Robert B. Cruice has made the suggestion that, as the Government has no further use for Fort Mifflin, this island in the Delaware would provide an admirable location for a hospital for infectious diseases. Thus far, however, no steps have been taken towards carrying out these important suggestions.

While discussing hospitals, it should be noticed that the friends of the late Prof. D. Hayes Agnew have concluded, very opportunely, to erect a memorial ward at the hospital of the University of Pennsylvania, devoted particularly to the treatment of surgical diseases and injuries of children. This memorial seems especially appropriate, since Dr. Agnew was known to be opposed to the post-mortem

vanity of statues and monuments; and, although his marriage was childless, was very fond of children. The "D. Hayes Agnew Memorial Children's Ward" will probably hold from thirty to fifty beds. The sum required will be $150,000, of which two-thirds are expected to remain as an endowment, and the remainder to be expended on building and furnishing. A permanent association has been formed, which will shortly address an appeal for funds for this purpose, to the friends of the late Dr. Agnew, in different parts of the world. Joseph G. Rosengarten, Esq., of this city, is the secretary of the organization.

The recent election of Dr. George E. DeSchweinitz as Clinical Professor of Ophthalmology, at the Jefferson Medical College, by the Board of Trustees, is considered an eminently proper appointment and both the new incumbent and the College can be congratulated. The Alumni Association of the Jefferson College, however, has had its attention directed by the public press to the fact that Dr. DeSchweinitz had hitherto been identified with the University of Pennsylvania; and furthermore that the trustees had given no notice of their intention to hold an election, so as to allow the alumni of Jefferson a chance to compete for the prize.

Attention has also been directed in the public prints to the alleged preponderence of University influence in the Jefferson faculty and to the custom of filling vacancies with university graduates. It does seem rather hard upon the specialists who fill subordinate positions and work for many years in dispensary and clinic, to find that when their reward is almost within their grasp, it is tantalizingly withdrawn and handed to an alien; and not even to a brother alumnus. At the annual meeting, held Jan. 14, Dr. W. W. Keen in the chair, however, the whole matter was happily dismissed by adopting the following resolutions:

"Whereas, Resolutions have been circulated among the alumni of the Jefferson Medical College and given wide newspaper publication, conveying the impression that they were an official utterance of the Alumni Association of the Jefferson Medical College, and conveying the inference that the faculty and Trustees of Jefferson Medical College are not conducting the affairs of the institution in accordance with principles of loyalty to the college and its alumni, and thereby had incurred the hostility of the Alumni Association, be it

"*Resolved*, That the Alumni Association of the Jefferson Medical College, in annual meeting assembled, tender a vote of confidence to the faculty of the Jefferson Medical College for their energy and activity in furthering its best interests; for their efforts to maintain its high standard of medical education, and for their cordial coöperation with the alumni of the college in advancing the mutual interests of the institution and its graduates; and to the Board of Trustees of the Jefferson Medical College for the wise and progressive character of their present administration."

The resolution was adopted without discussion, as was also a resolution declaring it to be the sense of the Alumni Association that it would be to the best interests of the college if there should be representation from the alumni upon the Board of Trustees.

The association elected these officers: President, Dr. W. W. Keen; Vice-Presidents, Dr. J. C. Wilson, Dr. J. M. Barton, Dr. Morris Longstreth, Dr. John Fay Allen, Dr. J. F. Sauwers, of Germantown; Dr. J. A. Lippincott, of Pittsburg; Dr. Thomas Addis Emmett, of New York, and Dr. S. L. Kurtz, of Reading; Corresponding Secretary, Dr. Richard J. Dunglison; Recording Secretary, Dr. Orville Horwitz; Treasurer, Dr. E. L. Vansant.

A State Board of Medical Examiners for Pennsylvania is among the possibilities of the near future. The Medical Society of the State of Pennsylvania has approved the bill which is now before the legislature, and which the following is an abstract:

1. The Board shall consist of nine members, graduates of some legal medical school, "no two of whom shall be residents of the same county, and none of whom shall be a member of the faculty or staff of any medical school or university."

2. The members shall be appointed by the Governor by and with the advice and consent of the Senate.

3. All physicians commencing practice in Pennsylvania after July 1, 1893, "shall be examined in anatomy, physiology, chemistry, pathology, hygiene, toxicology, differential diagnosis, surgery, and obstetrics; and each applicant, upon receiving from the secretary of the board an order for examination, shall draw by lot a confidential number, which he or she shall place upon his or her examination paper, so that when said papers are passed upon, the examiners shall not know by what applicant said papers have been prepared, and upon each day of examination all candidates shall be given the same set of questions."

4. The examination papers and marks shall be preserved and shall be open to public inspection in case of dispute. "No one shall be excluded or rejected on account of adherence to any special system or school of practice."

5. "Each applicant who shall have passed a satisfactory examination shall receive from the said board under seal a license to practice medicine and surgery in the Commonwealth of Pennsylvania."

6. "Nothing in this act shall be construed to prohibit service in cases of emergency or the domestic administration of family remedies."

7. The applicant shall pay an examination fee of ten dollars and "in case of failure at any examinations shall have the privilege of subsequent examinations without the payment of an additional fee."

With consistent unwisdom the members of the homœopathic sect in this locality, it appears, are actively opposing the bill; which does not interfere with the modes of practice; but merely pertains to the essentials of medical education. Is this a confession of incapacity on the part of homœopathic educational institutions; or is it an acknowledgement that the less of medicine a candidate knows the more likely he is to belong to the homœopathic ranks? The daily papers are almost without exception unanimously and enthusiastically in favor of the bill, because "it treats the graduates of all medical schools alike; and makes competency and honesty the only qualifications."

A hospital for the chronic insane is now building near Wernersville, under the direction of a Commission appointed by the State. Dr. Thomas G. Morton, Chairman of the Lunacy Committee of the State Board of Charities, made an address at the ceremony of laying the corner-stone, November 29, 1892. In this address he stated that this is the first institution for the treatment of the chronic insane in Pennsylvania. Inasmuch as many of these patients are harmless lunatics and chronic dements, who do not require restraint and would be benefited by open air exercise and light labor, Dr. Morton argued that their separation from the acute cases would afford immediate relief to the overcrowding of the five existing State hospitals. Moreover, as these patients require less attendants than the acute cases, this plan would be also in the interest of economy as well as of humanity. The State has appropriated the sum of half a million of dollars for the purchase of ground and the erection of the asylum, which is to be on the plan of a parallelogram of semi-detached buildings with the latest improvements in hospital construction. The place selected has long been celebrated as one of the most attractive health resorts of the eastern slope of the Alleghanies, and is in proximity to the city of Reading.

"The Medical Club of Philadelphia" is the name of a new social organization which has just been formed. Its laudable object is to encourage among the members of the profession a more friendly and intimate social acquaintance. The discussion of refreshments of various kinds, it is hoped will take the place of the stereotyped medico-scientific subjects, which are excluded by the articles of the association. Dr. J. H. W. Chestnut is President, Drs. P. D. Keyser and

H. A. Hare, Vice-Presidents; Dr. Lemuel J. Deal, Secretary; and Dr. Roland G. Curtin, Treasurer. About three hundred physicians have signified their intention of connecting themselves with this society, and are putting themselves in training for post-prandial elocutionary honors.

At the January election at the College of Physicians, Dr. S. Weir Mitchell was re-elected President.

The friends of Professor Roberts Bartholow will be glad to be apprised of his return to health and to his practice, as announced editorially by the *Medical News*.

The coroner of Philadelphia has at last furnished the frightful example that the comic papers have long been instituting inquiry for. A boy, 13 years of age, who was said to be an inveterate cigarette smoker, who smoked constantly during his waking hours, was attacked by a violent headache one morning, and this was followed by severe convulsions, which terminated fatally. A verdict of "death from convulsions from excessive cigarette smoking" was rendered, according to the daily papers, which however fail to state whether or not any lesions were discovered in the brain at the post-mortem examination. Without the autopsy it would seem that something would be required, even more potent than the authority of the coroner, to establish a positive diagnosis, or even a diagnosis by exclusion, of death from cigarette smoking.

The report of the Philadelphia Cremation Society shows a steady growth of public sentiment in favor of incineration. Since the establishment of the Society there have been 186 incinerations, divided as follows: During 1888, 14; 1889, 28; 1890, 31; 1891, 51; 1892, 62. There are 205 certificates now in force.

Revision of the Code of Ethics.

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

Dear Sir:—The writer's letters to THE JOURNAL of January 14 and 28, in answer to "INQUIRER," consist of detailed statements of the reasons why he considers revision of the American code unwise and inexpedient, but now it becomes necessary to state some facts connected with the history of the repudiation of the Code, and with the present status of the advocates of the movement, which has proved so beneficial to the profession in the city and State of New York. The text for these remarks is suggested by an editorial in the *Medical News* of January 28, 1893, but the writer will give first the result of en examination of certain sentences, contained in the *News* editorial of September 17, 1892, not before criticised. These will be quoted and commented on to show that their author has received wrong impressions or has been misinformed.

1. The dissatisfaction with certain provisions of the Code says the author of the *News* editorial of Sept. 17, 1892, expressed itself in the State of New York, especially, to such an extent that one of the most important sections of the Code—one, indeed, which has done more than any other to maintain the dignity of the profession—has been repudiated." A dissatisfaction is expressed, but no reason is offered in explanation, no argument is made to give it form, and no just cause for it is assigned. A few persons are dissatisfied because they are dissatisfied, therefore the world must and shall satisfy them at any cost! This is substantially the kind of reasoning that appears with their demand, and the author of the *News* editorial seems to think that something must be done to appease the wrath of individuals who cannot say why or whence their cholor and general discontent. A few disaffected physicians repudiate just and time honored laws, and gather around themselves others who know little or nothing of these laws, blindly follow their misguided leaders, and adopt new laws which tend to lower professional dignity. Not content with this, they are now striving to disorganize the national body that made the laws, which they seem to consider too strict. The author of the editorial acknowledges that the part of the Code which is sought to be abolished, *i.e.* the consultation clause, "has done more than any other to maintain the dignity of the profession." Nothwithstanding this acknowledgement, he wishes to substitute for this clause one which, in letter, is but a very imperfect representation of the original!

2. Another statement in the editorial is as follows: "The antagonisms, produced by this act of repudiation on the part of the *Medical Society of the State of New York* have led to bitter dissentions, and created for a time a serious division in the profession." Until the year 1882, the profession in the city and State of New York was harmonious. A few years before that time, ten or twelve physicians formed a cabal which they extended to the State society and which resulted in the repudiation of the American code, and the adoption of a "new code," Had the dissenters stopped at this point, a simple protest would have been made, but they insisted that the whole profession in the State should adopt their "new code," bitterly denounced all those who differed from them, and spoke in the most disrespectful terms of the National Association in public medical gatherings, in medical journals, and even in newspapers. This was naturally resented by the defenders of the Association in the city and State of New York. The extent of the division of which the editorial speaks was ascertained at the time, for in 1883, the State was canvassed with the following result: Five thousand and two physicians received each, a communication asking certain categorical questions, of this number, 3,826 sent corresponding answers; 34 sent indefinite replies, and 1,142 did not reply. This leaves for "no code" and the "new code" together 1,279, and for the National code 2,547, or within a small fraction of, two to one, in favor of sustaining the Nation's code. In the year 1883 this was the extent of the division of the profession in the State of New York. Since then many of the uncommitted and of the "new code" adherents, have declared themselves in favor of the National code and many more will doubtless do so when they have studied critically the American code.

3. Again the editorial says: "This division, however, is now practically healed, as far as the individual relations of members of the profession in New York are concerned"; . . . This is not strictly correct, for the leaders of the "new code" movement are now as bitter as ever in their denunciations, but the rank and file have already begun to realize that they were easily led into error—by misrepresentations—owing to their want of knowledge of the provisions of the Code, which they do not regard as a set of oppressive laws.

4. The same editorial contains the following: "One familiar with the Code contest in New York nine years ago, in looking back, must recognize the fact that this contest led to action that the majority of the partisans of the two sides would now willingly modify." It is evident from the above sentence, that the author of the editorial, is not familiar with the history of the contest to which he refers. The defenders of the American code, consider that they have acted in good faith in this defense and that they have not been guilty of any act that, in truth, can be characterised as unbecoming honest and loyal members of the profession, and that therefore there is nothing that requires modification. They stand as firmly as before in the support of the Code. The author of the editorial speaks of "partisans of the two sides." The defenders stood where they had always been, and made their protest, when the public overt acts of the disaffected, came to their knowledge. There was only one set, that deserved the name partisan, for the members thereof adhered closely and fanatically to a fraction, and

opposed most vehemently, and traduced, the National Association. These crafty partisans, by sundry dark devices, have long been striving to induce some unsuspecting delegates to take steps toward causing the abrogation of the Code, and have succeeded so far as to bring about the revision proposition; their objective point being the consultation clause, whose suppression they hope to effect in case of failure, to set aside the whole of the Code. If the author of the *News* editorial had been familiar with the "code contest" he would have understood the real motive of the revision proposition and would probably have written a very different editorial, for he is loyal to truth and justice.

5. The author of the editorial speaksfor the National code supporters, but evidently without warrant. "The supporters of the Code would now be willing to see it stripped of useless provisions and redundant language, to say the least." It does not appear that consistent supporters of the Code are likely to wish it stripped of what it has not; they would be most illogical to express any such desire, especially after the announcement in the *News* editorial that the "general sense of the profession" is favorable to the Code as it stands.

6. What may now be the views of the majority of those who, years ago, endorsed the "new code," the writer does not know absolutely, but he believes that if they will honestly devote one hour each day, for a week, to the study of the American code with Dr. Flint's commentaries, they will be most likely to abjure the "new code" and adopt the American code.

7. The author of the editorial is now axiomatic and says: "It is time for the adherents of scientific medicine to come together and stand on common ground." This is devoutly hoped for, if he means that the common ground shall imply a common medical faith as expressed in the existing morals of the National Association. If the great majority, or if all of those who so unwisely opposed the national ethics will for a time set aside the self-love, which has probably prevented an acknowledgment of wrong, and band in unison with the national confraternity, with the one laudable object of sustaining scientific medicine, then the American medical profession, with its 100,000 members, will surely exercise an immense power for the good of individuals as well as of the whole nation. Therefore let the same zeal animate all, that the general good may become the good of each, for, divided, though the dissenters be in the smallest minority, the profession can have but little influence with the people, the great masses of which are now led astray medically, by ignorant and crafty charlatans of all sorts; many of whom are liable to become members of State Legislatures, and to make bad laws for the profession and for the people.

8. The editorial very properly suggests "leaving agitators and belligerents in the background. There is no doubt that the agitators and belligerents, *i e.*, those who so persistently opposed the Nation's code of medical morals, should be left in the background if they refuse to submit to these laws, as there is no other punishment for them but to be left in the background.

9. The author of the editorial further says: "We believe that the great majority of those who have repudiated the Code have no desire to degrade the profession to the level of those classed as irregular practitioners, or to meet such practitioners on terms of professional equality; but rather that they honestly believe in the right to render their services to all, whether the patient be at the moment under the care of a physician or of an irregular practitioner." Whatever may be their desire, they can degrade only themselves by obstinately acting contrary to well established laws. The profession could be degraded only if the majority of its members should be guilty of persistent violation of these laws.

10. The defenders of the Code will doubtless thank the author of the editorial for the following, which appear to be the first conciliatory words he has uttered in their behalf. "We believe also that the defenders of the Code resisted its modification on the highest moral and professional grounds." The defenders of the Code were actuated by the sole motive of preserving law, order, and good professional conduct. They maintained that the standard of medical morals can never be too high. The author of the editorial thinking, very properly of course, that the defenders had done nothing more than their bounden duty, metaphorically pats their backs, saying, Well done, worthy defenders, but you must yield to the evil doers. Like some righters of wrongs, he is for encouraging the erring minority, and for forcing the loyal majority to compromise the honor and dignity of a great National organization, in order to satisfy the unjust demands of this wrong-headed minority This is the inevitable logical conclusion of the case.

11. The writer's examination of the *News* editorial of September 17, 1892, leads him to believe, that its author has been too hasty in expressing views which do not appear to have been based upon an exhaustive study of so grave a question of morals as is involved in this discussion. It is hoped that this author, whose editorial shows sincerity and honesty, will re-examine the whole subject, that he will study Dr. Flint's book on "Medical Ethics and Etiquette," and then frankly state his conclusions in a new editorial.

12. A few remarks will now be made in respect of the *News* editorial of January 28, 1893. The author of the editorial asserts that the Code "contains unnecessary matter that obscures its meaning, and that its provisions fail, in certain respects, to meet the present requirements of the profession." Will he be so kind as to make and publish a convincing argument that the Code "contains unnecessary matter that obscures its meaning, and that its provisions fail, in certain respects, to meet the present requirements of the profession?" Will he also please to say, which of these provisions fail, etc., and which are the obscure provisions, wherein lies their obscurity, what it is that he fails to understand, and what are the present requirements of the profession, particularly of that "formidable minority," in respect of moral laws? Will he pardon the writer for saying that, after long and careful study of the Code, he has failed to detect the obscuring redundance and the defects to which the author alludes, but that, on the contrary, he has found the Code definite, distinct, easily understood, and pregnant with meaning and most salutary precepts. Perhaps these qualities have rendered it objectionable to its repudiators.

13. The author of the editorial says that he "should approve of the Code as it is, were it not that there is a vigorously expressed dissatisfaction with it on the part of a formidable minority of the profession." The bare assertion of dissatisfaction is not sufficient, this minority should state why it is dissatisfied, and what is dissatisfying in the Code. What may be expected of this minority, when it ceases to demand but more becomingly requests, has been stated in the writer's letter to THE JOURNAL of January 28, 1893. If the Code must be revised, because this is demanded by the "formidable minority," what is to be done with the majority which prefers that it shall not be revised? But suppose that the "formidable minority" should become the majority, this would still leave a "formidable minority" in favor of the Code as it was, and this minority would have the same right to demand its restoration. If this could happen, when would revision end, and when would there be harmony? Is it just and proper that all the other States in the Union should yield to the whim of one State when the grandest moral principles are assailed by that State? Can the author of the

editorial show that there is the faintest spark of equity in the position taken by the opponents of the code?

14. The assertion "blind adhesion to the Code" is in keeping with the "expressed dissatisfaction." The defenders of the Code do not blindly adhere to it, but approve it because they are fully aware of its literary merits, and of the great value of its moral precepts, from having studied it long and critically. The majority of those who repudiated it, knew very little of this Code, and many confessed that they had never read it, while others boasted they would never do so.

15. The writer offers an apology to the author of *The News* editorial for having unintentionally misquoted him in one regard, in the letter to THE JOURNAL of January 14, 1893. This inadvertence is scarcely pardonable, but the writer trusts in the generosity of the editor of *The News*, who will kindly convey to the author this poor explanation.

16. Before closing this communication the writer will state a few additional facts relating to the status of New York, in respect of representation in the National Association. When, in 1884, the Medical Society of the State of New York still persisted in advocating the "new code," despite the remonstrance of a large majority of the members of the profession in the State, the defenders of the American code organized the New York State Medical Association in order to secure to New York a proper representation in the National Association. This new Association has since grown to be a power in the State, and now numbers over seven hundred and fifty active members eligible as delegates to the American Association. This statement is now made because many members of the National Association, are under the impression that New York is entirely disfranchised. In accordance with the rules of the American Medical Association, the New York State Medical Association is entitled to send seventy-five delegates annually, and all of its 750 members are eligible to permanent membership.

17. *The News* editorial of Sept. 17, 1892, talks of the exclusion of "able, eminent, and honest co-workers," as if ability, eminence, and honesty could not be found outside the domain of its specified "able, eminent and honest co-workers." The country in and out of New York, is full of able, eminent and honest men who prize the National code of morals. Among the members of the New York State Medical Association, not far from one hundred have been, or are professors or instructors in the medical schools of the city or State of New York. Many of them are authors of eminence in medicine, surgery, obstetrics and gynecology. A large proportion of the members are connected with public institutions, and are performing valuable work for the relief of human suffering and for the advancement of science. During the nine years of the existence of the New York State Medical Association over four hundred essays of a high order of merit, have been read before this Association, on medicine, surgery, obstetrics, gynecology, materia medica, therapeutics, physiology, pathology, hygiene, State medicine, toxicology, medical jurisprudence, insanity, bacteriology, organic chemistry, etc. In the meetings of this Association, no time is devoted to the discussion of ethics, nor is there any such need, for all the members are agreed on the ethical question.

18. The writer has lately seen a list of the members of a local society whose headquarters are in the city of the New York. This society, organized in 1884, under the title of the New York County Medical Association, is in affiliation with, and makes an annual report to, the New York State Medical Association as is indicated in the transactions of this Association. The number of members of this County Association is eight hundred and five, and is said to be rapidly increasing. In the list of members may be noticed the names of the most eminent physicians and surgeons of New York City. Therefore, the whole of New York State is not disfranchised, and it has an abundance of "able, eminent and honest" workers who are loyal to the National Association.

19. The preceding and following statements should dispose definitely of the cant about "able, eminent and honest co-workers." The diffusion of knowledge is such in this free country that talent does not now need a metropolitan stamp to be recognized. The great universities of the South, of the central part of the Union, and of the far West, have developed genius, in a relatively greater proportion within this decade, than have done those of the Eastern and Middle States in the last half century. "Able, eminent and honest" workers are to be found in abundance everywhere in this land. The disaffected eminent workers must reform, try to be just, or take the "background."

20. The American Association is warned, that the proposed revision of the Code is only a subterfuge to cause the abrogation of the consultation clause. If this clause had never appeared in the document, most probably the question of revision would never have been raised. It now becomes necessary for the Association to suppress the rising disaffection in its ranks, remembering that reformation is too often undertaken only when abuses have become extreme, and that then it is generally futile. It is when an evil is embryo that it should be stamped out forever, or its eradication is no longer possible. Let the American Association then, beware of the hydra of disaffection that unceasingly rises from the depth of distorted minds; that has already shed its venom of discord over one State, and that may spread it throughout this broad land, unless the reptile is speedily destroyed. The demon of the Code heresy will surely renew its onslaught in some form or another after it is believed to have been exorcised. Again and anon will the same or similar turbulent and evil spirits assert themselves with nefarious intent. Therefore, let the Judicial Council—the guardian of good order—be ever on the alert, ready for exorcism, and let the Association raise its mighty voice and annihilate the monstrosity with truth and and justice.

A CONSERVATIVE MEMBER.

SOCIETY PROCEEDINGS.

American Electro-Therapeutic Association.

Second Annual Meeting, held in New York, October 4, 5 and 6, 1892.

WILLIAM J. MORTON, M.D., PREST.

FIRST DAY OCTOBER 4—AFTERNOON SESSION.

(*Continued from page 131.*)

The want of time forbids any elaborate discussion of the physical causes of the two opposite liquid currents, the endosmotic and the exosmotic currents, produced by osmotic action. Suffice to say that they are now generally recognized to be more complex than they were formerly believed to be. They depend, apparently for their action, among other causes, on the phenomena of simple diffusion as modified by capillary action, on the affinities of the liquids for each other or for the septum, and, in some as yet not thoroughly understood manner, on the action of electric currents. So far as the influence of diffusion and capillarity are concerned they depend on intermolecular action, resulting, through the inter-action of cohesion and adhesion, in surface tensions.

Let us now examine what occurs when an electric current is passed through two liquids across a porous wall or

septum which separates them, that is, when the liquid and the septum form part of an electric circuit. Under such circumstances a movement of the liquid takes place in the direction of the current; or, in other words, the level of the liquid rises on the side of the negative electrode and falls on the side of the positive electrode.

Calling as before, the endosmotic current that which is directed towards the higher level, then the electro-endosmotic current is that which passes through the septum in the same direction as the electric current.

Now regarding the skin and other membranes of the human body as septa, if electrodes moistened with medicinal substances, such for example as a soluble iodide, cocaine, quinine, etc., be applied to different parts of the body, and an electric current be passed between such electrodes, a flow of the solutions placed in or around the electrode takes place in the direction of the electric current, by means of which said solutions are carried into the tissues of the body. The introduction of drugs or medicaments into the human body by such means is called cataphoresis, and I have been asked to state the principles of cataphoresis from the standpoint of the physicist.

The task is a difficult one for the following reasons: Even if the physics of the phenomena of simple osmose were thoroughly understood, a discussion of the causes and phenomena of electric osmose would be a matter of considerable difficulty, since the introduction of the electric current would considerably modify the results. But when to the complexity arising from the introduction of an electric current into the problem, is superadded the complexity arising from the effects of vitality, of modified nutrition, of alterations in the contractility of the tissues, the results are so profoundly modified that the study of the phenomena of cataphoresis from the standpoint of the physicist only, or, in a more limited manner, from the standpoint of the electrician only, must necessarily fail of its best results unless supplemented by the study both of the physiologist and of the practicing physician.

The exact causes of the phenomena of simple diffusion are by no means thoroughly understood. The fundamental causes of the phenomena of electric endosmose in non-living matter are still involved in dispute. The causes of the phenomena of cataphoresis, or electric endosmose in living matter must, therefore, of necessity be involved in considerable obscurity.

The effect of an electric current passing through a tissue of the body in determining a flow of liquid through such tissue in the direction of the electric current was first ob by Reuss of Moscow, and afterwards by Porret, who called it electric endosmosis. It is now sometimes known as Porret's phenomenon. Porret observed that when an electric current is passed through a living, fresh, sarcous substance, the contents of the muscular fibre at once take on a flowing or streaming movement in a direction which is the same as that in which the current is assumed to flow; viz., from the positive towards the negative pole, and that there results from this movement a swelling of the fibre at the negative pole.

The problem is still further complicated by the belief, that has existed for a long time, that the phenomena of simple osmose are invariably attended by the presence of electric currents. If this is true, and it certainly appears probable, then the presence of such currents cannot be without its influence on osmotic phenomena.

According to Graham, a chemical action on the material of the septum invariably attends osmotic action. For this reason, the phenomena are practically absent in neutral solutions, and are most marked in acid and alkaline solutions. In the case of a membrane of ox bladder, Graham found that the loss of weight of the septum in various experiments varied from 20 to 40 per cent. according to the character of the solution, the kind of septum employed, and the time of duration of the experiment. In the case of such mineral septa as unglazed earthenware, he found alkaline solutions to produce a greater action than acid solutions, because they exerted a chemical action on the septa.

Since chemical action produces electrical currents, it is not improbable that such currents are produced whenever osmose occurs.

But an observation of Graham renders the presence of electric currents in all osmotic currents almost certain. He asserts that one of the surfaces of a membrane or septum through which osmotic action is taking place is invariably acid, while the other is basic, and that this state is invariably connected with the progressive decomposition of the substance of the septum. In other words, the membrane is polarized; an electro-motive force exists which is definitely directed, and presumably, electrolytic decomposition takes place.

But apart from such consideration it is a well-known fact, that when a liquid is forced through the capillary pores of a porous wall or partition, electric currents called diaphragm currents are produced. That is, the phenomena are interchangeable.

Take for example the case of the capillary electrometer, in which a drop of sulphuric acid is placed in a capillary tube filled with mercury. When a current of electricity is passed through the mercury across the drop, it will cause the drop to move in the same direction as that in which the electric current is flowing. If, however, when the electric current is absent from the tube, the drop of liquid is forced to move by the application of pressure, then a current of electricity is produced which flows in such a direction as would tend to move the drop in the opposite direction to that of the motion it is forced to take by the pressure. As you are probably aware, an operative electro-capillary transmitting and receiving telephone has been constructed on these principles.

Since ordinary osmose is attended by the forcing of liquids through capillary spaces, there must, it would seem, be set up electro-motive forces as the results of such liquid flow, and these electro-motive forces would presumably tend to oppose such liquid flow.

The cause of the electric current produced by the motion of the drop of sulphuric acid is generally explained as follows: The contact of acidulated water and mercury possesses a definite surface tension. The two liquids do not, however, actually touch; a small interval or space exists between them. This space acts as a small accumulator. Since different liquid substances are in contact, they acquire different potentials. If the shape and contact of these surfaces are altered by any means, the capacity of the condenser is altered, and consequently an alteration occurs in the difference of potential. The mere shaking or heating of the liquid in such a capillary tube will, therefore, be attended by the production of electric currents. Conversely, an electric current sent across such contact surfaces will produce motion from the change in the value of the surface tension.

But apart from the question as to whether or not there exist electric currents or differences of potential in the case of ordinary osmotic phenomena, there is no doubt that the passage of an electric current from one liquid to the other, through a septum which separates them, causes a modification in the value of the endosmotic current. In most cases it increases such current; according to the observations of Napier, the direction of endosmosis is changed by changing the direction of the electric current.

When flowing in one direction, therefore, the electric current adds to the ordinary endosmotic current a liquid current of its own; when flowing in the opposite direction, it opposes or reverses the direction of the endosmotic current.

Napier alludes to this in a paper on electrical endosmosis contributed to the Chemical Society of London December 15, 1845. I append the following extract from the paper, viz.:

"That two dissimilar solutions separated by a porous partition, will pass the one into the other, is a phenomenon long observed, the only necessary conditions being that the liquids have a strong tendency to combine and that the one is more capable of entering into or wetting the porous partition than the other. Liquids eminently fitted to effect this are alcohol and water and saturated solutions of some salts and pure water. But the phenomenon of endosmosis takes place also when an electric current passes through liquids separated by a porous partition. When all the above conditions are absent and even when these conditions are present, the endosmotic current will follow the electric, although in a contrary direction to that which it would take were there no electric current passing, showing that, under these circumstances, it has its origin in the passage of the electric force. This fact was first made known by Mr. Porret in the Annals of Philosophy in 1815."

So too Beard and Rockwell, alluding to this subject, say on page 190 of their "Medical and Surgical Electricity":

"The electric currents also exercise a positive and very interesting influence over endosmose. By the passage of a galvanic current the endosmotic phenomena may be both stimulated or reversed. This is shown in the following experiment of Dutrochet: A tube containing gum-water is closed at one of its ends by animal membrane and dipped in a vessel containing common water. By the ordinary operation of the laws of endosmosis the water rises in the tube on account of the entrance of some of the ordinary water through the membrane into the tube. But if the positive pole of a galvanic battery be placed in the common water and the negative pole in the gum-water, the endosmotic action is stimulated to such a marked degree that the level of the gum-water rises with much greater rapidity; if we reverse the poles the level of the gum-water in the tube sinks instead of rises. The faradic current from the secondary coil produces no such effect. The current from the inner coil—the extra current so-called—produces these effects to a less degree. It is pretty clear, therefore, that these phenomena depend on the *chemical* and not on the *mechanical* power of the current."

An extended study has been made of the phenomena of electrical endosmose. Besides the observation of Reuss and Porret, already referred to, many other able investigators have worked in this field of research.

I will cite only the following generalization of the results of many experiments by De la Rive, viz.:

"The force with which a galvanic current tends to transport a liquid through a porous partition from the positive to the negative wall is measured by a pressure which is directly proportional to the intensity of the current, to the electric resistance of the liquid, to the thickness of the porous partition and inversely proportional to the surface of that partition."

When an electric current is caused under certain conditions, to pass through compound substances a chemical decomposition, or, as it is generally called, an electrolytic decomposition of such substance occurs.

It is almost certain that when an electric current is caused to pass through certain liquid substances across a wall or septum separating them, that if not in all cases, at least whenever the strength of the current reaches a certain value, electrolytic decomposition takes place, and that therefore another cause is introduced to still further modify ordinary osmotic action.

As we have already seen Graham has shown that a decomposition of the septum occurs with a polarization and progressive decomposition of its substance.

That foreign liquid substances as medicaments can be successfully introduced into the body by electric endosmose does not admit of doubt, and an extremely extended and valuable field is thus opened up to the electro-physiologists. This part of the problem, belongs gentlemen to you as electro-physiologists and electro-therapeutists. To me as a pyscicist, there remains only to be added a few conclusions or generalizations which I think are correct concerning the cataphoric effects of an electric current. These conclusions are as follows, viz.:

1. That the presence of electric endesmose is more general than has heretofore been suspected.

2. That whenever a constant electric current is sent through the human body whether for ordinary therapeutical treatment, as well as for some definite catphoretic treatment, a true cataphoretic action must occur. There must be determined through all the membranes or membranous substances which lie in the path of the current, a flow of certain of the fluids of the body in the direction of the current. The result of these cataphoric currents must be to engorge certain parts and deplete other parts: and, it is possible, that in many cases the therapeutic value of the current may arise mainly from such action, by the transportation of morbid matters from one part of the path to another part, or to a more uniform condition of pressure in certain parts by the transportation of fluids from gorged to depleted tissues.

This in all probability explains why in so many cases one electrode only acts as the therapeutic electrode, and the other as the indifferent electrode.

3. That since cataphoric action presumably accompanies the passage of an electric current through the body, the resistance of the entire human body, or of the parts of the human body, cannot remain uniform. Besides the variations of resistance that attend variations in the condition of the skin, and those that must result from the polarization accompanying electrolytic decomposition, there are those produced by cataphoric action in varying the distribution of the fluids of the body engorging certain portions and depleting others. Moreover, since the cataphoric action increases with the strength of the current, the resistance of the human body will necessarily vary with the strength of current employed to measure such resistance. This fact should be born in mind in measuring the electric resistance of different parts of the body.

In calling attention to the probable variation in the resistance of the human body with the strength of the current passing, I am not referring to that change in the electric resistance which arises from its electrolytic polarization; *i.e.*, to the variation in its resistance produced by the counter-electro-motive force of polarization. Such a resistance is asymetrical, *i.e.*, possesses a different value in opposite directions. The change in the resistance due to cataphoric action should be symmetrical; *i.e.*, should possess the same value in either direction.

I do not know in point of fact whether such differences in the resistance of the human body actually follow changes in the strength of the currents passing through the human body, or variations in the duration of the time such currents are passing. I merely throw out the suggestion as what appears to me to be logical conclusions, and what I believe will be found to exist as actual facts.

In conclusion, then, there would appear to be two varieties of cataphoric action; viz.:

1. Normal cataphoresis, by means of which disturbance is effected in the distribution of the constituents of the body, by the passage of an electric current.

2. Abnormal cataphoresis, by means of which is effected an introduction of fluid substances into the body from without, by the passage of an electric current.

(*To be continued.*)

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SATURDAY, FEBRUARY 11, 1893.

THE TREATMENT OF MYXŒDEMA BY THYROID EXTRACT AND THE FUNCTIONS OF THE THYROID GLAND.

An intense interest in this subject is apparent on the part of the British medical profession, as is evident from the fact that at least a dozen articles have appeared in the leading journals in the last three months. The reports of the cases thus far recorded are very favorable, and the results are astonishing.

Naturally, in this new interest in the effects of thyroid disease, the question of the function of this gland comes into increased significance. On this point there can be no certain stand taken at present, though the promise of a solution of this difficult physiological problem seems near. In his most recent work on the functions of the thyroid gland, VICTOR HORSLEY (*British Medical Journal*, January 30, and February 6, 1892), favors three hypotheses, viz.: 1. That it is directly a blood-forming organ. 2. That it is indirectly a blood-forming organ. 3. That it modifies or destroys substances in the circulating blood which are harmful to the general economy. To these three theories GIBSON (Ibid., January 14, 1893) objects. He maintains as the results of his observations and experiments, that no reduction in number of red blood cells, and but very little alteration in the number of colorless cells, follows extirpation of this organ; and that it therefore can have no blood-forming function. He believes, further, that the hypothesis of the secretory function of this gland is the more probable, the secretion being of a nature which permits its absorption into the blood, where it is essential to life. In this he agrees with SCHIFF, and with SAUQUINICO and CANALIS, who extend SCHIFF's hypothesis by suggesting that the substance secreted by the thyroid is necessary for the nourishment of the central nervous system. In this way the cachexia strumipriva could be explained on the ground that it was the result of retrograde metabolism from a lack of the normal nervous stimulus. From a clinical point of view, this theory of the secretory function of the thyroid seems the more adequate to explain the symptoms of myxœdema and cretinism, and the results which follow the treatment of these diseases by the administration of thyroid extracts.

The grafting of the thyroid gland of the lower animals for cachexia strumipriva, myxœdema and cretinism, has been practiced by various surgeons since 1883, with the unanimons verdict of an improvement in the symptoms in cases in which the gland survived. In the paper above mentioned GIBSON reports an interesting case of myxœdema and cretinism in a child of six years, in which, on two occasions, he grafted the thyroid gland of a sheep into the mammary region, and into the abdominal cavity of the child, with remarkable improvement in the patient, as shown most conclusively in the series of photographs.

The subcutaneous injection of the extracted juice and extraction of the thyroid was put into practical use by MURRAY (Ibid., October 10, 1891), who employed this extract in the treatment of myxœdema. The cases in which MURRAY's treatment has been applied have all exhibited marked amelioration of the distressing symptoms of the disease, amounting, in some cases, to an apparent disappearance of the disease. As a rule, the improvement began after the first treatment, and progressed while the treatment was continued; the countenance became brighter, the skin softer and more pliable, the swelling of the body disappeared, with a corresponding loss in weight, the temperature increased to normal, the speech and intellectual faculties became natural, the sensations were re-established; in fact, all of the symptoms of the disorder abated or were improved. It was soon noted, however, that unless the injections were continued at occasional intervals, relapses were prone to occur; nor were the injections entirely devoid of danger, as shown in the cases of MURRAY, LUNDIE and others, in which profound depression bordering on collapse has followed the injections. Aside from this, infection, and abscess at the site of the injection, seems to follow this treatment very frequently.

These objections to the administration of the thyroid extract, by subcutaneous injection, led to experiments with the remedy given by the mouth, and in the cases published by NAPIER (*Glasgow Medical Journal*, September, 1892), MACKENZIE (*British Medical Journal*, October 29, 1892), FOX (Ibid., October 29, 1892), BARBER (Ibid., January 7, 1893), LUNDIE (Ibid., January 14, 1893), and ANDERSON (*The Practitioner*, January, 1893), the results seem in every way equal to those obtained with the MURRAY injections. It was found that not only the thyroid *extract* prepared by MURRAY's or by other extraction pro-

cesses, but also the *fresh gland itself*, was available as a remedy in this disease, when given by the mouth. Cases in which the feeding with fresh thyroid glands was employed are reported by MACKENZIE, FOX, BARBER and others, and up to the present time the same improvement as followed the administration of the extracts, either hypodermically or by the mouth, has been recorded. DR. MACKENZIE advises that the treatment of myxœdema by the fresh glands be commenced with either one thyroid (from the sheep) every other day, or half a thyroid every day. The gland is to be minced and mixed with the food in any manner which suggests itself. Lightly *fried* sheep's thyroid has been employed by Fox (loc cit.), which was then minced and mixed with currant jelly. However, BARBER believes the heat of hot liquids to be detrimental to the best effects of the remedy, as he found in one of his cases in which the chopped gland had been taken in hot soup.

It certainly appears, that we have in this new treatment a remedy, which was suggested by a physiological and pathological study of the thyroid gland; in other words, we have a remedy founded upon scientific deductions. Whether the ultimate results of the remedy will fulfil the present remarkable promise, remains to be seen. In the meantime, let the treatment receive the thorough trial its present importance merits, and its present record justifies. In the meantime, let us not forget the advice of DR. T. MCCALL ANDERSON, and employ along with this treatment, such remedies as arsenic, iron and the tonics, together with baths, and friction.

The present position of the newly inaugurated treatment, for the effects of thyroid disease, is well expressed by DR. ANDERSON: "From whatever point we regard it, there can be no doubt that a valuable new remedy has been discovered for the relief of a very serious disorder, and one which may pave the way for similar discoveries in other fields."

TUMORS OF THE BRAIN.

The report by DR. HEKTOEN of sarcoma of the pons and of glio-sarcoma of the cerebellum, which we print in this number of THE JOURNAL, will call attention to many interesting points in connection with such growths. The difficulties of diagnosis and of localization are well illustrated; the tumor in the centre of the pons appears to have been quite misleading, although the symptoms were rather those of a lesion at the base than of the cortex. The interesting observation made by GERHARD that hæmorrhage into vascular gliomas is not followed by the somewhat persistent lowering of the temperature characteristic of ordinary extravasaions of blood into the brain appears to be true of sarcoma as well, although it may be that the infiltrations into the pontine tumor described were not large enough to warrant any definite conclusions on this point. It would have been very interesting to have observed whether the faradic current applied to the dura over the motor areas through the exploratory trephine opening made shortly before death would have been followed by any abnormal manifestations or not.

The relation of trauma to the development of the the tumor in the cerebellum appears to be quite distinct and the number of recorded and reliable observations calling attention to the predisposing etiological effect of head injury to the growth of cerebral tumors is now sufficient to make this point in the clinical history of such cases one of diagnostic value. This case illustrates well the latency of cerebellar lesions with respect to localizing symptoms unless the vermes be involved, and it also shows the production of internal hydrocephalus and greatly increased intracranial pressure for the temporary relief of which trephining, and even tapping and drainage of the ventricles, have been recently proposed and performed.

The clinical study of tumors and other lesions of the brain is one of extreme interest primarily, of course, from the diagnostician's point of view, but also because an exhaustive clinical study of such cases from all possible aspects during life, completed by a careful anatomical examination after death, sometimes yields conclusions as to the function of cerebral areas and as to the localizing symptoms that could only be equalled by the most painstaking and elaborately planned experiments upon animals. American medical literature contains a few solid contributions embodying the result of this high grade of work. SPITZKA's classical contribution to the morbid anatomy and symptomatology of pons lesions, based upon the accurate clinical observation of a case of hæmorrhage into the left half of the pons and the careful anatomical study of the secondary degeneration of the nerve tract initiated by the hæmorrhage is perhaps one of the best sustained and most completely balanced studies of this kind in existence. The degeneration observed in his case proved to be one of the best sustained and most conclusive instances of tract disease recorded. SPITKA's communication appeared in the *American Journal of Neurology and Psychiatry* for November, 1893. The observations of PROFESSOR DONALDSON, of the Chicago University, upon the brain and sense organs of the blind deaf-mute LAURA BRIDGMAN (*American Journal of Psychology*, Vol. III. No. 3 and Vol. IV. No. 4) led to important conclusions as to the extent of sensory cortical areas, especially that of the visual area, and also to the very important deduction that the early destruction of sense organs and the subsequent examination of the cortex in animals will be the means of experimental determination of the limits of the several sensory areas.

The histological study of lesions of the nervous system has received important aid through the introduction of the improved staining methods of WEIGERT and of PAL which differentiate readily between the ganglion cells, the nerve fibres, connective tissues, and areas of degeneration and sclerosis. In all investigation of diseases of the brain the use of these methods are indicated and it should not be forgotten, as we have so frequently noticed, that the tissue around the foci of disease of various kinds should be carefully examined not only because tract lesions may have been initiated but also because unsuspected degenerations of neighboring brain substance may have taken place for some distance away from the tumor or tuberucular mass on account of circulatory disturbances and this may have caused symptoms during life not explainable by the gross lesion. WEIGERT,S or PAL's method will here be of great service because they make it possible to accurately study the nerve fibres.

ON CERTAIN CONDITIONS IN REGARD TO THE INFECTIVE NATURE OF CARCINOMA.

In an address read before the Medico-Chirurgical Society of Glasgow, on October 7, 1892, (*British Medical Journal*, Jan. 14, 1893), DR. JOSEPH COATS presents his most recent views on the etiology of cancer. He proposes to analyze the characteristics of carcinomata in the same manner as tuberculosis was analyzed, and its infective nature proven, long before the discovery of the tubercle bacillus. According to this authority, COHNHEIM'S theory is satisfactory in explaining the origin of the benign (non-nulastatic) tumors, but it does not apply to carcinoma. The difference in the lesions of the infective granulomata and of cancer are pointed out, with the conclusion that the infective microbes produce homoplastic irritative tissue lesions, while carcinoma is a true tissue growth—a heteroplastic epithelial proliferation, well supplied with blood and lymph vessels and with connective tissue. The metastases of cancer are tissue growths of an elaborate and finely adjusted character which often reproduce with wonderful fidelity the characters of the primary tumor. When a graft is planted in an epithelial organ, the cells of this organ take no part in the tissue growth, they are merely pushed away by the growing tumor. Carcinomata are widely different in their characters, as is shown by the varying tendencies to burrow in the tissue, or to extend laterally instead of towards a free surface; by the varying tendencies to ulceration, to colloid metamorphosis; in fact, cancer exhibits none of the constancy in tissue lesions which characterizes tuberculosis. Cancer extends along the surface in its primary seat only by continuity of tissue; it does not scatter in its primary seat, but extends, the entire primary tumor being one continuous whole. Secondary tumors do occur, it is true, but these tumors must be regarded as parts of the primary tumor—as grafts which have become transplanted. Cancer then, is a tissue growth, whereas the lesions of microbic infection thus far known, are inflammatory tissue products, the results of irritation. These considerations lead COATS to believe that if a parasitic organism has to do with the causation of carcinoma, it must be something very different in its mode of action from the bacteria with which we are acquainted.

In answer to the question, "Can a tissue growth be produced by a parasitic agency?" COATS first refers to two of his own cases. The first was a case of malignant goitre in a woman, of sixteen years standing, in which, about a year and a half before death, a secondary tumor appeared over the occipital bone, which grew to considerable size and was accompanied by other smaller tumors. On microscopical examination the secondary tumor was found to reproduce exactly the structure of the thyroid growth. If we accept the view that goitre is an infective disease, then we have an example of a true tissue growth of a complex character induced by morbid poison introduced from without; and in this light, the case just described, would be of much importance in comparing it with cancer.

The author, also refers to a case of cancer of the stomach, in which he found a number of wart-like growths of epithelium on the interior of the lower end of the œsophagus. This case, which was a marked exception to the rule that the primary tumor confines itself to the first invaded organ, suggested to COATS the idea of an infective character in the primary tumor, as though the causative organ had been regurgitated from the stomach to the œsophagus. The alleged occurrence of lowly animal organisms in molluscum contagiosum is noted, though the author wisely refrains from committing himself on this subject. The psorospermosis of the lower animals is referred to, particularly the works of LEUKART and DELEPINE, and others is laid on the fact that the primary lesions in the coccidia diseases of the lower animals are associated by an overgrowth of epithelium.

The works of RUSSELL, SOUDAKEWITCH, SAWTSCHENKO, RUFFER, WALKER, and STEINHAUS on the protozoan carcinomia organism, are mentioned, and on this subject also, COATS maintains a reasonable skepticism.

The author concludes his address by stating that he listens with more favor than formerly to the suggestion that cancer is due to an infective parasite introduced from without. The *vegetable* parasites are not capable of producing tissue growth as observed in carcinoma, but it does seem possible that minute *animal* organisms, by entering into the substance of

the cells and there undergoing their stages of evolution, could produce phenomena of a kind similar to those of cancer. Even after the discovery of a specific parasite, there would be many problems in the characteristics of cancer which would demand solution, so that, at present, we must assume a waiting attitude.

NO FEAR OF CHOLERA.

In an interview with DIRECTOR-GENERAL DAVIS, of the Columbian Exposition, in the *Chicago Tribune*, of Feb. 7, this functionary is reported as saying: "The anxiety existing about a possible outbreak of cholera this year arises largely from the agitation of the subject by alarmists, principally of the medical fraternity, with whom the discussion of the probability of an epidemic of some nature is a professional fad."

We would most respectfully ask DIRECTOR-GENERAL DAVIS who he would expect to be alarmists in case of a threatened invasion of contagious disease, if not those whose profession makes it necessary for them to be the active combatants in the fray that is so portentous at this time? Does the Honorable Director-General of the Columbian Exposition look to the Board of Trade, the writers for the daily press, the fire insurance companies or the marines for a code of sanitary laws and suggestions pertaining to quarantine regulations? All of these bodies are both respectable and reputable, and have been found capable of formulating and solving many intricate business relations, and having done this, DIRECTOR-GENERAL DAVIS would have the people to know that they are also equal to the task of frightening away the cholera, which he would, from the abundance of his wisdom have the world to know is only casting the shade of a shadow in the direction of the Columbian Exposition.

Of a truth, Director General is the King Canute of the Western Continent. The fiat has gone forth. With the great Columbian sceptre in his hand the Director General has entered the Decree. Thus far shalt thou come, dire and dread disease, but no farther. The fiat of the Director General, like unto the laws of the Medes and Persians, is never altered or made subject to revision by a human court.

Why have the fathers and sons of Æsculapians for more than twenty centuries been delving in the unknown for new truths, to be recorded for a guidance in the prevention and treatment of disease, which after all, is only a business professional fad? When all that is neccessary in order to keep the infectious germs from migrating, is a waft of the wand of an Imperial Director-General of a Columbian Exposition, vulgarly termed a World's Fair.

Before this modern Director-General of the Columbians we your unworthy subjects bow in humble submission. We now know the cholera and its coming is a veritable fad expressly gotten up for business purposes. We know it won't, it dare not come in the face of the Decree,—but all the same when it does come and the Director-General himself begins to feel the peculiar wriggles and contortions of the exceedingly active comma bacillus, when it takes on Delsarte movements, and lightly skips from side to side as it meanders along the serous coat of the Director-General's bowels—perish base figment of an imaginative imagination, there is neither a possibility or probability of such a movement, for the Decree is entered up and is now in full force and unimpeachable by any professional or scientific theory that may be conceived by medical men.

Let us henceforth cease to be agitators and theorists, or make further efforts to create corners in comma, spirilla-shaped or other germs. These things are all on the Director-General's side. They are every one of them in favor of work every day in the week, both nights and Sundays. Thereby they increase in numbers.

The medical profession has been regarded as an exemplar in morals, for it is the only profession or calling, the members of which have for their own guidance a written Code of Ethics. This high estate of morality in which they live, leads them to deprecate all attempts to abrogate the Sabbath as a day of rest. These infectious, hard to control bacilli are constant Sunday workers, hence it is they are on the side of the Director-General of the Columbian Exposition, and squirm against all medical opposition.

The Director-General is Monarch Shoo-Shoo of the germs.

THE KEELEY CURE INSTITUTES.

Going, going, going and gone !

Advertisements similar to the following may now be found in the current daily newspapers:

At 42 South Curtis St., this Tuesday morning, 10 o'clock, auction sale contents Keeley Institute. Iron bedsteads, hair mattresses, good bedding, sheets, blankets, slips, etc., etc. Folding beds, office furniture, range, plated ware, crockery, etc., etc. Sale peremptory.

ELISON, FLEISHEIM & Co.,
Auctioneers.

The sustaining efforts of PARSON TALMAGE, the gullible press and philanthropic spasms of KEELEY himself were not sufficient to sustain the fad for the half of a half decade.

STATE MEDICAL SOCIETIES.

The following gives secretary's name, with time and place of meeting, 1893.

Alabama—T. A. Means, Montgomery; Selma, April 11.

Arkansas—L. P. Gibson, Little Rock: Batesville, May 31.

California—W. W. Kerr, San Francisco; San Francisco, April 18.

Colorado—A. S. Lobingier, Denver; Denver, June 20.

Connecticut—N. E. Wordin, Bridgeport; Hartford, May 24.

Delaware—W. C. Pierce, Wilmington; Cape Henlopen City, June 13.

Florida—J. D. Fernandez, Jacksonville; Jacksonville, April 4.

Georgia—D. H. Howell, Atlanta; Americus, April 19.

Illinois—D. W. Graham, Chicago; Chicago, May 16.

Indiana—E. S. Elder, Indianopolis; Indianapolis, May 10.

Iowa—C. S. Chase, Waterloo; Burlington, May 17.

Kansas—W. S. Lindsay, Topeka; Topeka, May.

Kentucky—Steele Bailey, Stanford; Frankford, May.

Louisiana—P. B. McCutchon, New Orleans; New Orleans, May 9.

Maine—C. D. Smith, Portland; Portland, June 14.

Maryland—G. L. Taneyhill, Baltimore; Baltimore, April 25.

Massachusetts—F. W. Goss, Boston, Boston, June 13.

Michigan—C. W. Hitchcock, Detroit; Muskegon, May.

Minnesota—C. B. Witherle, St. Paul; Minneapolis, June 21.

Mississippi—H. H. Haralson, Forest; Jackson, April 19.

Missouri—L. A. Berger, Kansas City; Sedalia, May 16.

Montana—T. H. Ellis, Butte; Great Falls, April 19.

Nebraska—Geo. Wilkinson, Omaha; Nebraska City.

New Hampshire—G. P. Conn, Concord; Concord, June 20.

New Jersey—Wm. Pierson, Orange; Spring Lake, June 27.

New York—E. D. Ferguson, Troy; New York, Oct. 10.

North Carolina—R. D. Jewett, Wilmington; Raleigh, May 9.

N. Dakota—D, S. Moore, Jamestown; Jamestown, May 25.

Ohio—T. V. Fitzpatrick, Cincinnati; Put in Bay, June.

Oregon—C. H. Wheeler, Portland; The Dalles, June 13.

Pennsylvania—Wm. B. Atkinson, Philadelphia; Williamsport, May 16.

Rhode Island—W. R. White, Providence; Providence, June 1.

South Carolina—W. Peyre Porcher, Charleston; Sumpter, April 19.

S. Dakota—R. C. Warne, Mitchell; Huron, May or June.

Tennessee—D. E. Nelson, Chattanooga; Nashville, April 11.

Texas—H. A. West, Galveston; Galveston, May 2.

Vermont—D. C. Hawley, Burlington; Rutland, Oct. 12.

Virginia—L. B. Edwards, Richmond; Charlottesville, October.

Washington—G. D. Shaver, Tacoma; Tacoma May 10

W. Virginia—D. Mayer, Charleston; Parkersburg.

Wisconsin—C. S. Sheldon, Madison; Milwaukee, May 3.

BOOK REVIEWS.

KIRK'S HAND-BOOK OF PHYSIOLOGY. By W. MORRANT BAKER, F.R.C.S., late Surgeon to and Lecturer on Physiology at St. Bartholomew's Hospital, etc., and VINCENT DORMER HARRIS, M.D., F.R.C.P., Demonstrator of Physiology in the University of Durham, etc. 13th edition, with upwards of 500 hundred illustration, including some colored plates. Philadelphia. P. Blakiston, Son & Co. 1892.

The fact that this work has passed to the 13th edition is good evidence of the high esteem in which it is held. The reviewer remembers the pleasure and satisfaction with which he read one of the earlier editions during his medical course, and after this lapse of time—never mind how long—it provokes no feelings of disappointment to traverse the same journey again. The account of Physiology is brought up, as far as possible, to the present time. It does not profess to be exhaustive, for it is intended especially to furnish the medical student with a foundation upon which a knowledge of physiology may be safely based.

The book has been thoroughly revised and the scope of the work somewhat enlarged, yet the book has been kept within a very convenient limit as a hand-book, although it contains 884 pages. One secret of this is the very thin paper on which it is printed.

The chapter on food and digestion is full of such instruction as is needed by physicians and nurses, and in fact everyone who eats. The table showing the relative nutritious properties and digestibility of foods, and the rules laid down for their preparation, are of the utmost practical importance.

Thirty pages are devoted to a description of the kidneys and their functions.

In the chapter on nutrition it appears that the editors do not credit the American fasters with subsisting for 40 days on air and water alone. Several reputable physicians and disinterested laymen known to the writer watched one of the fasters and certified to the genuineness of the fast.

Although this work as a whole is one of a high standard of excellence. it is susceptible of improvements. On page 560 correct directions are given for laryngoscopy, but on the opposite page the illustration of the examination shows the light concentrator away below the proper level, and out of range with the forehead mirror, a mistake any laryngologist would notice at a glance. On page 624 another error occurs. In enumerating the effect of paralysis of the facial nerve they mention "the loss of power in the muscles of the internal ear." Of course the middle ear is meant.

It will be necessary to have some of the cuts renewed or improved for the 14th edition. They have served long enough to be retired on a pension. For example, on page 702 as many as nine of the letters of reference are missing and unaccounted for, except in the text. A most diligent search has failed to find them in the cut. In some of the other illustrations the letter or figures are so badly worn as to render their reading impossible.

The publishers have made a beautiful book, but the night reader will never forgive them for using mirror-paper.

The language ls generally perspicuous, but in some instances it becomes as ambiguous as that of the theosophists. Mention is made of this peculiarity because of the severely critical attitude of some of our English friends towards writers on this side of the pond. They may retort that Americans cannot understand Bacon. They will learn better next summer.

FISSURE OF THE ANUS AND FISTULA IN ANO. By LEWIS H. ADLER, JR., M.D., Instructor in Diseases of the Rectum, Philadelphia Policlinic and College for Graduates in Medicine. Detroit: George S. Davis. 1892.

In this little brochure the author deals systematically

with his subject-matter. It forms an interesting addition to the Physicians' Leisure Library Series, and will amply repay an attentive perusal. Practitioners will find here an aid in diagnosis and treatment of these distressing ailments.

ACNE AND ALOPECIA. By L. DUNCAN BULKLEY, A.M., M.D., Professor of Diseases of the Skin, New York Post-Graduate School. Detroit: George S. Davis, 1892.

We have here another addition to the Leisure Library Series, which deals with subjects interesting to the general practitioner as well as to the specialist. In no branch of medicine will careful attention to details give more satisfactory results than in dermatology. Dr. Bulkley has here given us an interestsng and instructive treatise on subjects that come under the everyday observation of most physicians.

PRINCIPLES AND PRACTICE OF BANDAGING. By GWILYUR G. DAVIS, M.D., Demonstrator of Surgery, University of Pennsylvania. Detroit: Geo. S. Davis. 1891.

The author here takes for his subject-matter a very important adjunct of surgery. A close attention to and faithful practice of the principles outlined will amply repay the young surgeon for the time so employed. The book will prove a valuable aid to students and young practitioners.

MISCELLANY.

THE INTERNATIONAL CONGRESS OF CHARITIES, CORRECTION AND PHILANTHROPY, JUNE 12–18, 1893.—*Section Four on the Hospital Care of the Sick, the Training of Nurses, Dispensary Work, and First Aid to the Injured.*—One of the series of International Congresses to be held in Chicago in 1793, is to be devoted to the subjects of Charities, Correction and Philanthropy, and Fourth Section of this is to consider all matters relating to the Hospital Care of the Sick, the Training of Nurses, Dispensary Work, and First Aid to the Injured. The Committee of Organization of the Congress has appointed Dr. John S. Billings, Surgeon U. S. Army, as Chairman of this Section, and Dr. Henry M. Hurd, Superintendent of the Johns Hopkins Hospital in Baltimore, as its Secretary, and has authorized and requested them to complete its organization, to extend invitations and to prepare a program for its work. Miss Isabel A. Hampton, Superintendent of the Training School for Nurses of the Johns Hopkins Hospital has been appointed Chairman of that part of the work of the Section which relates to the training of nurses.

This Section will hold five sectional meetings of about two hours each, commencing June 12, 1893, and will also have charge of one of the general sessions of the Congress, viz: that held on the morning of June 14.

It is desired that this shall be a truly international gathering for conference on the subjects allotted to this Section, and all who are interested in Hospitals, in Training of Nurses, in Dispensaries, or in First Aid to the Injured, are cordially invited to be present, to contribute papers and to take part in the discussions.

The papers and proceedings will probably be printed as a separate volume, and it is hoped that this will represent the best methods, and the best work in each of these departments in all parts of the world.

The following are suggested as subjects for special consideration in papers to be prepared: 1. Hospital Organization—Governing Bodies—Relations of the Medical Staff and of Nurses' Training Schools. 2. Hospital Finances—Means of Support—Mode of Keeping Accounts—Cost. 3. Plan and construction of recently built General Hospitals, embodying the latest improvements, 4. Relations of Hospitals to increase of Knowledge; to Medical Education, and to the Medical Profession. Hospital Records, Statistics and Reports. 5. Pay Patients in Hospitals. 6. Isolating Wards and Hospitals for contagious Diseases. 7. Hospital Diets, Dietaries, Kitchens, etc. 8. Hospital Amphitheatres and Operating Rooms. 9. Hospital Laundries and Disinfecting Establishments. 10. Army and Navy Hospitals—Emergency Hospitals in Time of Epidemics—Temporary and Movable Hospitals. 11. Small and Special Hospitals, Cottage Hospitals, School Hospitals, Private Hospitals, Sanitoriums, etc. Convalescent Hospitals, and what to do with Incurables. 12. History and present condition of Hospitals in the large cities. 13. Training Schools for Nurses. 14. Dispensaries—Relations to the Public and to the Medical Profession. Dispensary Records. 15. First Aid to the Injured. Associations for best means of popular instruction in and its place in General Education.

Persons desiring to present papers, or to share in the discussions of this Section, are requested to communicate with the Secretary at once. The period of time allotted for the preparation of the program is necessarily brief, and it is essential that all who are willing to assist in this work should act promptly. Address all communications to Dr. Henry M. Hurd, The Johns Hopkins Hospital, Baltimore, Md.

JOHN S. BILLINGS, M.D., *Chairman*

HENRY M. HURD, M.D., *Secretary.*

MEDICAL EXAMINATIONS—Candidates applying for a license (after the July 1893, meeting of the State Board of Medical Examiners) to practice Medicine in New Jersey, will be examined in the following subjects arranged in sections, as follows, viz: Sec. 1, Materia Medica and Therapeutics; Sec. 2. Obstetrics and Gynecology; Sec. 3, Practice of Medicine (including diseases of the Skin, Nose and Throat); Sec. 4, Surgery (including Surgical Anatomy, and diseases of the Eye, Ear, and genito-urinary organs); Sec. 5. Anatomy; Sec. 6. Physiology; Sec. 7, Chemistry; Sec. 8, Histology, Pathology and Bacteriology; Sec. 9, Hygeine and Medical Jurisprudence. The following percentages will be required, also, after that date, before a license will be issued, viz: candidates examined in the first class, *i. e.* graduates of five years or more, shall obtain a total average of eighty (80) per cent.; candidates examined in the second class, *i. e.* graduates of less than five years, shall obtain a total average of seventy-five (75) per cent. providing that in no one section shall the percentage be less than thirty-three and one-third (33⅓) per cent., in which case, however, should the total average percentage in all the other sections, be above seventy-five (75) per cent., the candidates may be granted a second examination, immediately, upon that section: candidates examined in the third class, *i. e.* non-graduates, who have taken three full courses of lectures in a reputable Medical schnol, shall obtain a total average of eighty (80) per cent., and candidates taking their preliminary or final examination, shall obtain a total average of eighty (80) per cent., at each of said examinations.

THOS. PERRY WATSON, M.D., *Secy.*

OFFICIAL LIST OF CHANGES in the Stations and Duties of Officers Serving in the Medical Depaftment, U. S. Army, from January 28, 1893, to February 3, 1893.

Capt. Louis A. La Garde, Asst. Surgeon U. S. A., is relieved from duty at Ft. McHenry, Md., and will proceed to Chicago, Ill., and assume his duties in connection with the World's Columbian Exposition.

Capt. C. N, Berkeley Macauley, Asst. Surgeon, now awaiting orders at Baltimore, Md., will report in person to the Superintendent of the U. S. Military Academy, West Point, N. Y., for duty at that post.

Capt. Chas. B. Ewing, Asst. Surgeon U. S. A., will, in addition to his present duties as attending surgeon, and examiner of recruits in Baltimore, Md., report in person to the commanding officer, Ft. McHenry, Md., for duty as post surgeon, taking station there.

Capt. Guy L. Edie, Asst. Surgeon U. S. A., will proceed from New York City to Ft. Wadsworth, New York Harbor, and report to the post commander for temporary duty.

Capt. Louis W. Crampton, Asst. Surgeon U. S. A., now on leave of absence at Los Angeles, Cal., will report in person to the commanding General, Dept. of Arizona, for such temporary duty at Los Angeles, Cal., as may be required.

OFFICIAL LIST OF CHANGES in the Medical Corps of the U. S. Navy, for the Week Ending February 4, 1893.

Asst. Surgeon L. H. Stone, ordered to Naval Hospital, Brooklyn, N. Y.

P. A. Surgeon G. H. Barber, from Naval Hospital, Brooklyn, N. Y., and to the U. S. S. "Miantonomoh."

Asst. Surgeon N. J. Blackwood, from U. S. S. "Miantonomoh," and to the U. S. Navy Yard, Brooklyn, N. Y.